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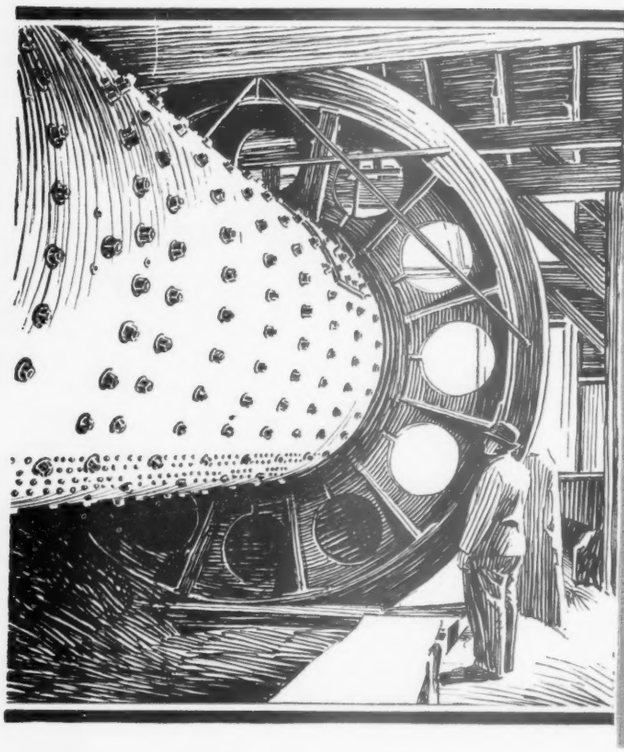
Advertisers' Index on Page 25

Table of Contents on Page 26

Belt-testing Drives of Industry



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The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Air Cleaning & Reaming Corp.
Ajax Iron Works
Ajax Rope Co.
Aluminum Co. of America
Amarillo Abstract Co. 161
American Appraisal Co.
American Asphalt Paint Co. 106
American Car & Foundry Co.
American Mfg. Co. of Texas
American Radiator Co.
American Roller Bearing Co. 9
American Rolling Mill Co.
American Schaeffer & Budenburg Corp. 96
American Sheet & Tin Plate Co.
American Spiral Pipe Works
American Telephone & Telegraph Co.
American Well Works 117
Anderson & Anderson 164
Anderson, Carl B. 162
Andrews Steel Co. 150
Arbon, Paul, & Co.
Arco Company, The
Armstrong Bros. Tool Co. 161
Askania, Werke, A. G.
Athey Truss Wheel Co.
Atlas Ball Co. 89
Auer, C. A.
Austin Co.
Axelson Machine Co.

B

B. & A. Specialty Co.
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The 118
Baker Casing Shoe Co.
Baldwin Chain & Mfg. Co.
Barber-Greene Co. 145
Barnickel, Wm. S., & Co. 99
Barnsdall Refining Co.
Bartlesville Supply Co. 102
Belle City Mfg. Co.
Bessemer Gas Engine Co. 49
Bignall & Keeler Machine Works
Black Steel & Wire Co.
Blackmer Pump Co.
Blaw-Knox Co.
Borden Co.
Bovaird & Seyfang Mfg. Co.
Bovaird Supply Co., The
Braden Co.
Brady Conveyors Corp.
Braun, C. F., & Co.
Bridgeport Machine Co. Back Cover
Bristol Co. 159
Broderick & Bascom Rope Co.
Brokaw, Dixon, Garner & McKee 164
Brooks Engineering Corp. 11
Brown, Arthur C. 162
Brownell Co.
Brown Instrument Co. 64-65
Brown & Thomsen 163
Brown Tool Co., Inc.
Buckeye Traction Ditcher Co.
Buda Co.
Buffalo Gasolene Motor Co. 151
Burns Tool Co.
Burt Corporation
Burt Mfg. Co.
Busch-Sulzer Bros. Diesel Engine Co.
Butler Mfg. Co.
Byers, A. M., Co. 4
Byron Jackson Pump & Mfg. Co., Inc.

C

Campbell, J. A.
Canadian Pacific Railway Co.
Carbondale Machine Co. 110
Caudill, Samuel J. 162
Celite Products Co. 108
Central Forging Co. 147
Central Steel Co.
Central Tube Co. 161
Chain Belt Co.
Champion Machine & Forging Co.
Chaplin-Fulton Mfg. Co. 161
Chapman Valve Mfg. Co.
Chestnut & Smith Corp. 149
Chicago Bridge & Iron Works
Chicago Pneumatic Tool Co. 57
Chicago Steel Foundry Co.
Chisholm-Moore Mfg. Co.
Clapp, Frederick G. 162
Clark Bros. Co.
Clark, Robert W. 164
Classified Wants 124-125
Cleveland Tractor Co.
Climax Engineering Co. 157
Coatesville Boiler Works
Columbian Rope Co.
Columbian Steel Tank Co.
Columbus Forge & Iron Co.
Columbus Sucker Rod Co.
Continental Motors Corp.
Continental Supply Co. 67
Cooper, C. & G., Co. 80-81
Cox & Sons Co., The
Crane Co.
Crane Packing Co.
Crown Central Petroleum Corp.
Cushing, Tim, Tool & Supply Co.

D

D. & B. Pump & Supply Co. 101
D. & N. Specialty Co.
Darling Valve & Mfg. Co. 6
Dart, E. M., Mfg. Co. 162
Davis, G. M., Regulator Co. 91
Dayton Pipe Coupling Co.
Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.

D

Detroit Graphite Co. 23
Diamond Drill Carbon Co. 164
Dixon, Joseph, Crucible Co.
Dodge Mfg. Co. 55
Donovan Boiler Works, Inc. 98
Dresser, S. R., Mfg. Co. 35
Dunn Mfg. Co. 75
DuPont De Nemours & Co., Inc., E. I.
Durabla Mfg. Co.
Duriron Company, The 100

E

Eagle-Picher Lead Co. 2
Earnshaw, G. W. 164
Eastern Torpedo Co. 161
Eclipse Paint & Mfg. Co.
Edward Valve & Mfg. Co.
Elliott Core Drilling Co.
Empire Refineries, Inc.
Emsco Derrick & Equipment Co.
Equitable Meter & Mfg. Co.
Eureka Burner Co.

F

Fairbanks-Morse & Co.
Farley Machine Works Co.
Federal Supply Co.
Fenwick-Reddaway Mfg. Co.
Fisher Governor Co.
Foamite-Childs Corp.
Fohs, F. Julius 163
Fooa Gas Engine Co.
Ford Chain Block Co. 158
Ford Motor Co.
Fort Worth Laboratories 162
Foxboro Co., Inc., The
Franklin Valveless Engine Co. 70-71
Frick-Reid Supply Co. 45
Full Crawler Co. 158

G

Gallagher Co. 53
Gardner Governor Co. 93
Garlock Packing Co.
Gaso Pump & Burner Mfg. Co. Inside Back Cover
General American Tank Car Corp.
General Insulating & Mfg. Co.
General Motors Truck Co. 5
General Oil Tools Co.
Gilbert & Barker Mfg. Co.
Gilfillan Machine Works 164
Gomory, W. L. 164
Goodrich, B. F., Rubber Co. Inside Front Cover
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co. 160
Goulds Pumps, Inc. 162
Graham Brothers
Graver Corp. 131
Greenspon's, Joseph, Sons Iron & Steel Co. 156
Griscom-Russell Co. 76
Guiberson Corp. 8
Gulf Refining Co.

H

Halliburton Oil Well Cementing Co. 103
Harrisburg Pipe & Pipe Bending Co.
Hazard Mfg. Co. 73
Heppenstall Forge & Knife Co.
Herald Brothers 164
Hercules Motors Corp.
Hercules Tool Co.
Heydrick Mapping Co. 162
Hill, Hubbell & Co.
Hills-McCanna Co.
Hinderliter Tool Co. 103
Homestead Valve Mfg. Co.
Hood, H. H. 164
Hoover Steel Ball Co. 116
Hope Engineering & Supply Co. 163
Hopkins, Edwin B. 163
Hornblower & Weeks 121
Hough, Charles N., Mfg. Co. 153
Hoyt Metal Co.
Hughes Tool Co. Front Cover
Humble Oil & Refining Co.
Hunt, Robert W., Co.
Huntley & Huntley 162

I

Illinois Glass Co.
Imperial Belting Co.
Imperial Royalties Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co. 84-85
International Harvester Co. of America
International Supply Co.
Iron King Mfg. Co.

J

Jarecki Mfg. Co. 12
Jefferson Union Co.
Johns-Manville, Inc.
Jones, S. M., Co. 13-163

K

Kansas City Hay Press Co.
Kaw Steel Construction Co.
Kellogg, M. W., Co. 157
Kelly, John Eoghan 163
Kelly-Springfield Tire Co.
Kennedy Valve Mfg. Co.

K

Kerotest Mfg. Co.
Kerr, John B. 163
Keuffel & Esser Co.
Kewanee Boiler Co.
Key Boiler Equipment Co.
Kinley, M. M., Co.
Kirk & Hoover 162

L

Landis Machine Co. 3
Larkin & Co.
Layne & Bowler Co.
Leidecker Tool Co. 111
Leschen, A., & Sons Rope Co.
Linde Air Products Co. 1
Link-Belt Co.
Longyear, E. J., Co. 163
Lucey Mfg. Corp. 17
Ludlow Valve Mfg. Co.
Lufkin Rule Co.
Lunkenheimer Co.

Mc

McCord Radiator & Mfg. Co. 104
McGregor Working Barrel Co.
McIntosh & Seymour Corp.
McJunkin Supply Co. 150
McKee, Arthur G., & Co.
McNutt, V. H. 163

M

Magnolia Petroleum Co. 77
Maloney Tank Mfg. Co. 92
Manzel Bros. Co.
Marion Machine Foundry & Supply Co. 90
Marsh Gauge Pole Co.
Mathieson Alkali Works, Inc.
Matson, George C. 163
Maverick, Phillip 164
Meier, E. C., Lubricating Co.
Merco Nordstrom Valve Co.
Messimer, H. H. 163
Metric Metal Works 10
Midwest Piping & Supply Co.
Miller Improved Gas Engine Co.
Miller, Max B., & Co., Inc.
Mineral Exploration Co.
Mine Safety Appliance Co.
Missouri Wood Working Co. 164
Moon Mfg. Co.
Moore, Lee C., & Co., Inc. 47
Mosler Metal Products Corp.
Munn & Co. 162
Murray Rubber Co. 155
Murray Tool & Supply Co. 114
Myers, F. E., & Bro. Co. 156

N

National Carbon Co., Inc. 1
National Gas Products Corp.
National Lead Co.
National Petroleum Engineering Corp. 164
National Petroleum Marketers Assn.
National Pigments & Chemical Co. 159
National Supply Co. 83
National Transit Pump & Machine Co. 155
National Tube Co. 112
National Turnbuckle Derrick Co.
Newton Process Mfg. Co. 33
Norris Bros., Inc.
Norris, W. C.
North American Car Co.
Northern Fire Apparatus Co. 19
Northern Oil Information Bureau 162
Northrup Equipment Co. 59
Nuttall, R. D., & Co. 69
Nye Tool & Machine Works 7

O

O'Brien Steel Construction Co. 154
Oertling, L., Ltd.
Ohio Mid-Cities Corp. 154
Ohio Steel Foundry Co.
Oil Conservation Engineering Co. 109
Oil Country Specialties Mfg. Co. 20
Oil Insurance Association
Oil Well Supply Co. 60-61
Oklahoma Armature Repair Co.
Oklahoma Steel Casting Co.
Oxweld Acetylene Co. 1

P

Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Partrige-Scotford Stamp & Stencil Co.
Patrick, R. S. 148
Pattin Brothers Co. 159
Penberthy Injector Co. 148
Pennsylvania Engineering Works
Petroleum Appliance Co.
Petroleum Iron Works 87
Pfarzheimer, Carl H., & Co.
Pickering Governor Co. 162
Pittsburg Boiler & Machine Co.
Pittsburgh-Des Moines Steel Co.
Pittsburgh Meter Co. 160
Pittsburgh Steel Products Co.
Plibrico Jointless Firebrick Co.
Plymouth Cordage Co.
Porter & Co. 37
Powell, William Co. 162
Power Mfg. Co.
Power Piping Co. 160
Power Plant Equipment Co.
Power Specialty Co. 18
Prescott Co., The
Prest-O-Lite Co., Inc., The 1
Pure Oil Co. 16
Pyle-National Co. 115

R

Ranney Oil Mining Co. 163
Ratigan, J. P. Co.
Reading Iron Co. 105
Reading Steel Casting Co., Inc.
Reed Roller Bit Co. 79
Regan Forge & Engineering Co. 63
Reid, Joseph, Gas Engine Co. 98
Republic Flow Meters Co.
Republic Iron & Steel Co.
Republic Supply Co. 95
Rich, John L. 162
Ridge Tool Co.
Ring, DeWitt T. 164
Riter-Conley Co. 161
Robinson, A.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries 163
Ryerson, Joseph T., & Son, Inc. 163

S

Safety Pulling Machine Co.
Sargent Engineering Corp., The 120
Shaffer, J. E., Co.
Shaffer Tool Works
Shaw, S. F.
Sheffield Steel Corp. 94
Sherwin-Williams Co.
Shippers' Car Line, Inc.
Simplex Equipment Co.
Sinclair Refining Co. 137
Sivyer Steel Casting Co.
Skelly Oil Co.
Smith, A. O., Corp. 24
Smith Separator Co. 22-43
South Chester Tube Co.
Southern Cornice Works
Southwestern Engineering Corp.
Southwestern Engineering Co., Inc. 121
Spang & Co. 21
Spang, Chalfant & Co., Inc. 51
Spence Machine Co. 161
Spencer Trailer Co.
Stalder, Walter 163
Stanley Belting Corp. 120
Star Drilling Machine Co.
States Engineering Co., The
Stearns-Roger Mfg. Co.
St. Louis Surfacer & Paint Co.
Strom Steel Ball Co.
Sullivan Co., The
Sullivan Machinery Co.
Superior Tube Co.

T

Taubman Supply Corp.
Templeton, Kenly & Co., Ltd.
Texas Company, The
Timken Roller Bearing Co.
Titusville Forge Co.
Titusville Iron Works
Toledo Pipe Threading Machine Co. 153
Trimont Mfg. Co.
Trumble Gas Trap Co.
Truscon Steel Co.
Twin Disc Clutch Co.

U

Union Machine Co.
United Alloy Steel Corp.
United Iron Works, Inc. 14
United States Cast Iron Pipe & Fdy. Co. 123
United States Rubber Co.
Universal Oil Products Co. 41
U. S. Tool Co.

V

Van Couvering, M. 164
Victaulic Co. of America
Vogt, Henry, Machine Co.
Volz Engineering Equipment Co. 122

W

Wall Rope Works, Inc.
Walsh & Weidner Boiler Co.
Walworth Co. 97
Warren Petroleum Co.
Waukesha Motor Co.
Westcott & Greis
Western Machinery Co.
Western Supply Co.
Westinghouse Electric & Mfg. Co.
Wheeling Steel Corp.
Wickwire-Spencer Steel Co.
Wico Electric Co.
Widdell Engineering Co.
Williams, Herbert E. 164
Williams, J. H., & Co. 107
Williamsport Development Co.
Williamsport Wire Rope Co.
Williams Tool Corp.
Wilson Oil Tools Corp.
Wilson Welder & Metals Co.
W-K-M Company, Inc.
Wood & Wood 163
Worthington Pump & Mach. Corp. 119
Wright, Harry F. 164
Wright Mfg. Co. 123

Y

Yale & Towne Mfg. Co. 15

Z

Zero Hour Torpedo Co.

WHAT AND WHERE TO BUY—PAGES 165-166-167

XUM

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 25. NO. 15. TULSA, OKLAHOMA, SEPTEMBER 2, 1926

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TABLE OF CONTENTS

SPECIAL ARTICLES

September Expected to Be Good Month ... 27
By Andrew M. Rowley
Seminole Pool will have big effect upon price structure. May reach peak of 100,000 bbls. by November 1.

Work Started on Panhandle Pipeline ... 29
By Andrew M. Rowley
Prairie Pipe Line Co. getting right of way easements for 25,000-barrel line.

Various Methods of Restoring Pressure ... 30
By James McIntyre
Using water, compressed air and gas and soda ash to recover riches of Bradford sands.

Rapid Expansion in Natural Gasoline ... 31
By Neil Williams
New plants being built in Mid-Continent, with several enlargement programs. Portable installations.

Russian Sales of Oil Exceed Output ... 32
By Charles E. Kern
Increase in production 16.9 per cent while markets increased 38.5 per cent.

Petroleum and Prosperity (Editorial) ... 34

Technical Questions Answered ... 36
By Dr. C. K. Francis

Texas Gross Production, Second Quarter ... 98

Lateral Drift of Holes in Deep Drilling ... 120
By F. M. Smith

Potash Deposits Offer Opportunity for Oil Men ... 154
By Charles E. Kern

Synthetic Petroleum Substitutes in Germany ... 160

FIELD OPERATIONS

Wilcox Sand Extension in Seminole ... 38
Gypsy well making 180 bbls. an hour believed to double potential producing area of new Oklahoma field.

North Central Texas ... 39-42
By C. D. Lockwood

Texas Panhandle ... 40-42
By C. D. Lockwood

Oklahoma ... 42
By J. L. Dwyer

Kansas ... 44
By J. L. Dwyer

Louisiana-Arkansas ... 46-48
By James H. Dameron

Mexico ... 46
By George Blardone

Southwest Texas ... 50
By B. D. Stevenson

Gulf Coast ... 52
By P. L. McGreal

Artesia, New Mexico ... 52
By Special Correspondent

Rocky Mountain Area ... 54
By Frank B. Taylor

Canada ... 54
By Victor Lauriston

California ... 56
By L. P. Stockman

Pennsylvania-West Virginia ... 58
By D. S. Wakenight

Central West and Michigan ... 62
By Whit

Kentucky-Tennessee ... 66
By Whit

REFINING AND MARKETING

Oklahoma Gasoline Turns Upward ... 28
By Neil Williams
Fractional advances felt in all grades following improved demand for motor fuel. Other products strong.

September Expected to Be Good Month in Chicago ... 126
By J. B. Waldo

Cracking Stock and Crude Runs Tighten in East ... 127
By N. O. Fanning

Use of Instruments in Gasoline Plants ... 128
By Frank P. Peterson

Refining and Marketing News ... 130

Plant Operators' Page ... 132

Court Dismisses Jenkins Suit Against Sinclair ... 132

Refinery and Crude Prices ... 134-135

Tankwagon Quotations ... 136

Effect of Temperature on Cracking ... 146
By E. H. Leslie and E. H. Potthoff
Tests to show reaction of fundamental variables and determine yields.

Value of Refined Products in Canada ... 158
By Victor Lauriston

ARTICLES OF GENERAL INTEREST

The Advertisers' Index ... 25

Men Known in Oildom and Personals ... 68

Equipment and Supplies ... 72

Steel Mills Busy With Oil Orders ... 72
By B. E. V. Luty

Natural Gas Developments ... 74

Production for 12 Months Ending July ... 89

Mexican Shipments, July ... 92

Classified Want Advertisements ... 124-125

Shortage of Tankers Coming ... 128

Oil Securities Strong and Active ... 133
By N. O. Fanning

What and Where to Buy ... 165-166-167

Crude Petroleum Statistics ... 168

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Refinery Section Starts on Page 126

September Expected to Be Good Month

Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.

Seminole Pool Will Have Big Effect Upon Price Structure. May Reach Peak of 100,000 Bbls. by November 1

By Andrew M. Rowley

Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.

That September will be a prosperous month for all branches of the petroleum industry is the feeling prevalent as the month opens, despite the fact crude oil production continues to mount. Prices for refined products are stronger and the refined oil market generally is firm. This fact, naturally, aids the crude oil market as it indicates a good demand for the raw material with a continuation of present prices in most of the fields at least as long as that demand continues. September usually is a good month for the industry with the Labor Day holidays starting the month with a big gasoline consumption.

As during recent weeks, much of the gain in production last week came from the Texas Panhandle, consequently the increase had very little effect upon the general situation as a major part of the Panhandle production is going into storage and is not reaching the markets. The pipeline the Prairie is building to the field will not run any crude from the field until early next spring so the Panhandle, as far as its effect upon the crude situation now is concerned, can be largely discounted, except in so far as this visible supply of crude is viewed as an important market factor during the early part of next year.

However, developments in the Seminole Pool in Oklahoma early this week indicated this area will be a greater factor in the general situation around November 1 than had first been thought. Early estimates of a peak of 60,000 bbls. for that pool were revised this week after the Gypsy Oil Company completed a well making 180 barrels an hour and which indicated the productive limits of the pool might be double that previously figured. Many conservative operators now believe Seminole may produce 100,000 barrels daily at its peak. The gravity of the oil is around 42 degrees and the crude is quickly available to markets, so this pool will be the deciding factor in the crude oil price situation by November 1. There are 115 tests drilling in the area and it requires from 70 to 90 days to complete a well, hence many of the tests now drilling are expected to reach the sand by November 1.

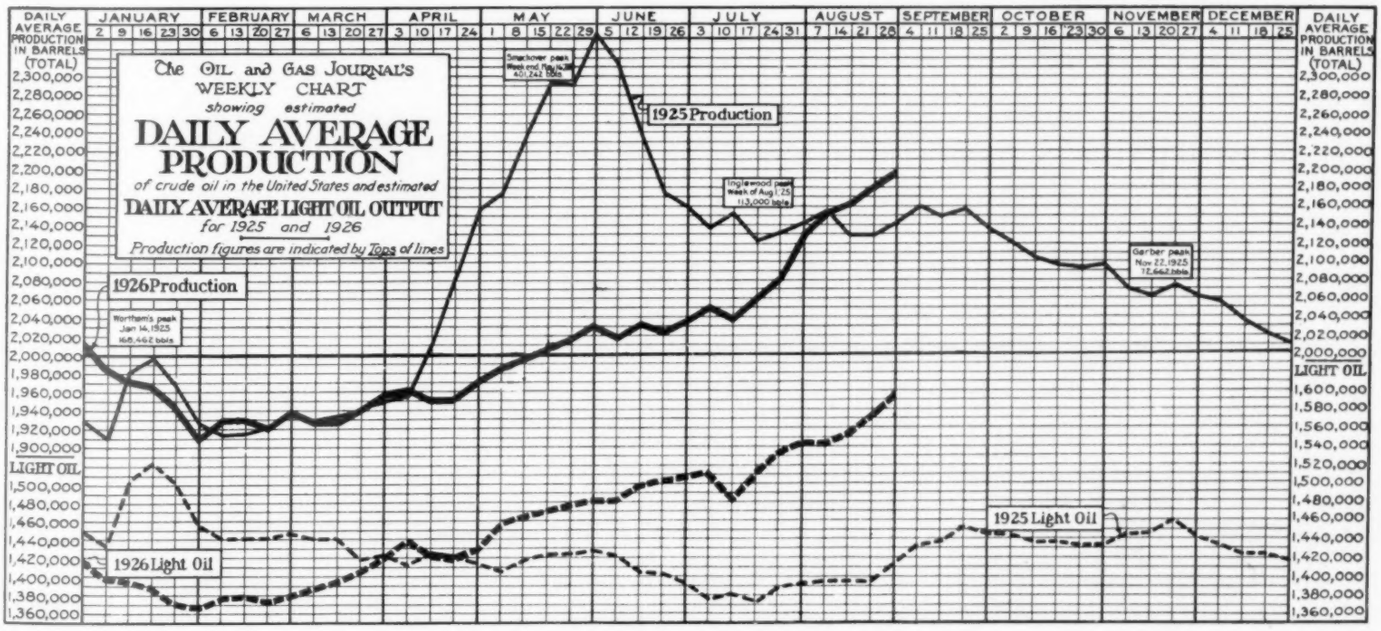
If crude oil production maintains its present level during the remainder of this year, production in the United States will be slightly greater than last year which was a record year for the industry in petroleum output.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended August 28, and a comparison with the previous week follows:

	Aug. 28		Aug. 21	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	37,280	.....	35,740	.....
Burbank	49,180	.....	49,255	.....
Other Osage Fields	34,115	.....	34,035	.....
Cushing and Shamrock	21,540	.....	21,620	.....
Bristow and Eastern Bristow	27,930	.....	27,985	.....
Cromwell	16,155	.....	16,405	.....
Garber	33,385	.....	32,345	.....
Blackwell-Braman	25,090	.....	25,180	.....
Seminole	13,870	.....	14,660	.....
Wewoka	31,355	.....	32,010	.....
Northern Miscellaneous	112,865	.....	113,405	.....
Southern Fields	65,645	.....	65,450	.....
Total Oklahoma	468,410	.....	468,090	.....
North Louisiana	42,574	14,311	42,080	14,220
Arkansas—				
Smackover	14,940	121,135	14,800	121,995
Miscellaneous	19,702	.....	19,877	.....
Total Arkansas	34,642	121,135	34,677	121,995
North Central Texas	181,865	.....	181,002	.....
Texas Panhandle	116,690	.....	105,820	.....
Powell	28,600	.....	27,900	.....
Mexia, Currie, Richland	14,800	.....	14,725	.....
Nigger Creek	16,500	.....	11,000	.....
Wortham	6,700	.....	6,900	.....
Kansas	112,315	.....	112,710	.....
Total Mid-Continent Area	1,023,096	135,446	1,004,904	136,215
Gulf Coast	.....	167,710	.....	170,630
Southwest Texas	.....	45,950	.....	45,885
Eastern	108,175	.....	107,250	.....
Rocky Mountain Area	112,075	.....	110,485	.....
California—				
Santa Fe Springs	49,000	.....	49,000	.....
Long Beach	105,000	.....	106,000	.....
Huntington Beach	45,000	.....	44,500	.....
Torrance	5,000	23,000	5,000	23,000
Dominguez	21,000	.....	21,000	.....
Rosecrans	15,000	.....	15,500	.....
Inglewood	26,000	19,000	25,500	20,000
Ventura Avenue	48,000	.....	47,500	.....
Remainder of State	41,000	210,000	41,000	212,000
Total California	355,000	252,000	355,000	255,000
Total United States	1,598,346	601,106	1,577,639	607,730
Grand Total	2,199,452		2,185,369	

Total Increase, 14,083 Bbls.; Light Oil Increase, 20,707 Bbls.



WHAT AND WHERE TO BUY—PAGES 165-166-167

Oklahoma Gasoline Turns Upward

Fractional Advances Felt in All Grades Following Improved Demand for Motor Fuel. Other Products Strong

By Neil Williams

The upward turn taken by gasolines the past week, together with the continuation of the strength and high prices of other products places the Oklahoma (Group 3) refined market in an unusually favorable position. All products, except wax, now are advancing with possibilities of a good September.

As an outgrowth of the better tone which developed in gasolines earlier in the week, all grades Monday and Tuesday were fractionally higher than a week ago. Material other than the U. S. Motor (58-60 437) gasoline continued slow but the more active demand for the latter product was sufficient to cause a generally better feeling and strengthening of prices in other grades.

Natural gasolines also found a steady demand, although not sensational, and the removal of considerable excess material has brought about a very satisfactory situation for sellers, who were able to advance prices from a quarter to a half cent during the week.

Other Products Scarce

Kerosenes continued scarce as did all grades of fuel, gas oil and distillates. While a feeling was noticeable among some market students that prices were at their top for this time there was no outward evidence of any immediate slipping, if any, of these products. There was a slackening in inquiries, especially of gas oil. Monday and Tuesday, and the extent to which this slowing up of this demand continues this week is expected to determine the trend during September.

As for fuel oil and distillates, the opinion is prevalent that the strength of these products is largely the result of domestic consumers who have been buying heavily the past month for the season's requirements believing that the market would be no lower this year.

There was considerable speculation Monday and Tuesday regarding the extent to which industrial users and other consumers have stocked on fuel and distillates for the winter. It is becoming general opinion now that these buyers have ample supplies and with them out of the picture further price advances may not be expected.

Gasoline Demand Brisk

The demand for motor fuel was brisk during the week although a slight letup was noticed Monday and Tuesday. There were no especially large individual orders but inquiries for small lots were numerous which served to move considerable material. Practically all the gasoline sought was for fairly prompt shipment.

The inquiries were largely due to efforts of jobbers to replenish storage before the Labor Day holidays, it is believed, as few sales for September shipment were reported. Jobbers, it is understood, are looking for a large consumption of gasoline over the holidays and orders during the week were thought to be in anticipation of this, rather than a desire to build up stocks at this time of year.

While most of the Labor Day requirements have been purchased by the jobbers at slightly lower prices than the present market, sellers are of the opinion that the general improvement as the result of these sales and the removal of considerable excess material which has been burdening the market may be the foundation

(Continued on Page 141)

REFINED MARKET BAROMETER

Strengthening of gasolines at all Mid-Continent refining centers was the most important development in refined markets of the country the past week. An increased demand, together with substantially lowered stocks, resulted in a greatly improved tone in that district. Elsewhere gasolines continued unsettled with a weakness developing in Pennsylvania and other eastern points. Kerosene, was in as active demand east of the Rocky Mountains as in previous weeks with markets a half cent higher at the Mid-Continent and Chicago refineries. Fuel oil, gas oil and distillates also maintained their strength although the movement of the former two products from Seaboard refineries was not as brisk as in other sections of the country, except California where a soft undertone continued. Natural gasolines showed greater strength except on the Pacific Coast. In that district the increased production was felt in the number of offerings but prices remained fairly firm. Lubricants were extremely spotted by grades in every district.

Mid-Continent—Gasoline strengthened in all sections of the Mid-Continent the past week and prices started upward. Demand from jobbers showed improvement in anticipation of Labor Day holiday consumption. Inquiries for motor fuel improved as jobbers anticipated good consumption over Labor Day but orders continued for small amounts and prompt shipment. Natural gasoline prices higher as supplies dwindle. Other products unchanged, except for further advances in kerosene and fuel oil. Lubricants steady.

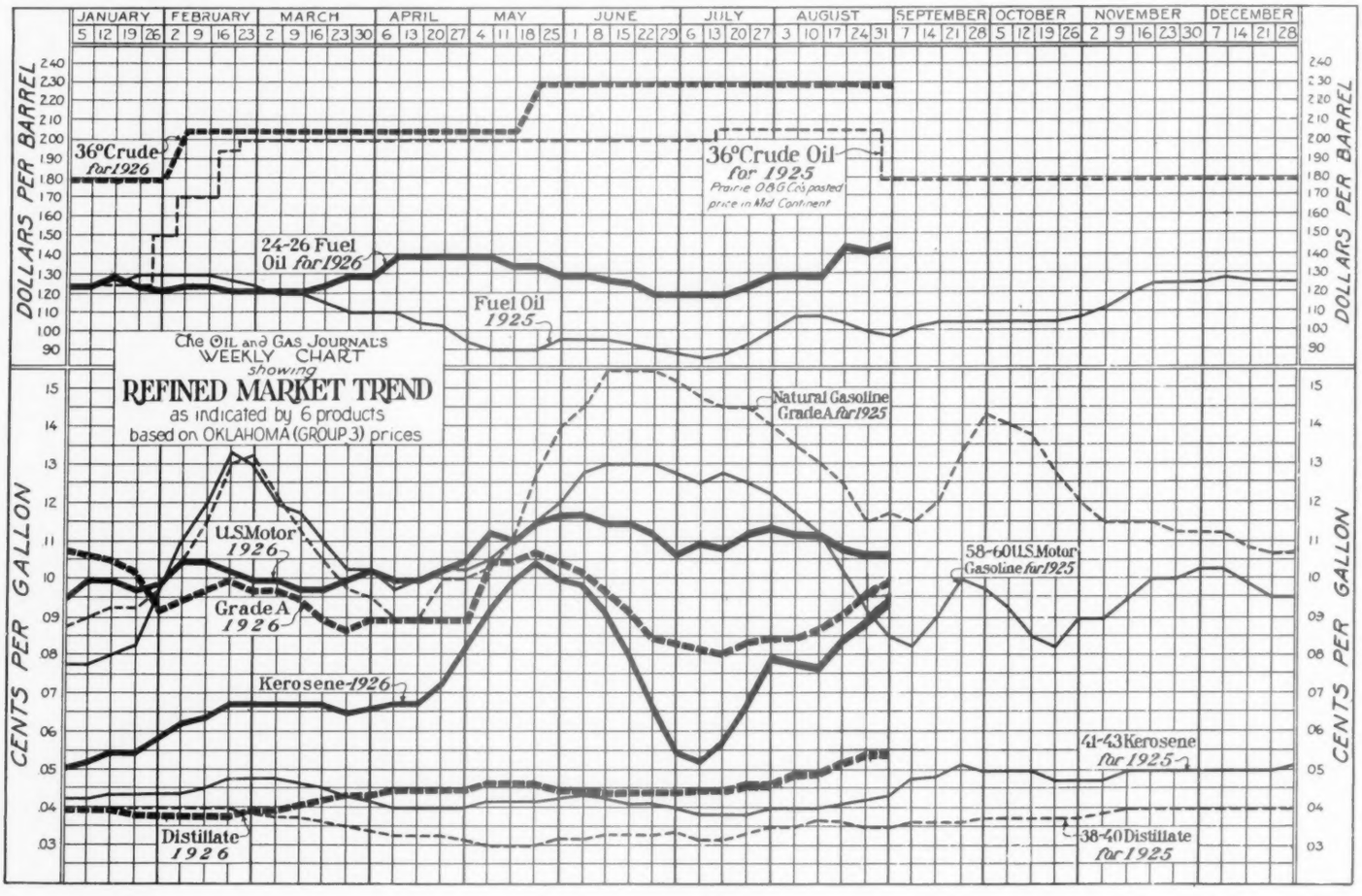
Atlantic Seaboard—Markets little changed. Kerosene gains strength due to heavy demand for cracking but gasoline continues only fair, checked by stocks which still are excessive. Gas oil and fuel oil strong but not especially active. Lubricants fair.

Pennsylvania—Gasoline prices slightly lower. Kerosene continues strong. Lubricants spotted. Other products unchanged.

Chicago—Jobber inquiries for gasoline improved and quotations higher. Kerosene and distillate demand still active. Gas oil and fuel oil strong.

California—Natural gasoline prices still firm but increased production being felt in greater easiness of material available. Refinery gasolines unsettled.

Gulf Coast—Scattered grades of pale and red lubricant stocks advanced with demand improved. Firmer tone prevails in general market due to adjustment of Spindletop crude prices. Gas oil and fuel oil steady.



Work Started on Panhandle Pipe Line

Prairie Pipe Line Co. Getting Right of Way Easements For 25,000-Bbl. Line from Kings Mill to Addington, Okla.

By Andrew M. Rowley

With the completion of the preliminary work of locating a route from the Panhandle Field in Texas to its trunk pipeline system in Oklahoma, as detailed in The Oil and Gas Journal July 1 last, the right of way department of the Prairie Pipe Line Co. started this week to procure the necessary easements as the first step in the actual construction of the line which will extend from Kings Mill, in Gray County, Texas, to Addington, Okla. and thence to the main trunk line at Ringling, Okla., a distance of approximately 208 miles.

Much of the material for the seven pump stations to be constructed on the line already has been contracted for and the line, when completed, will have cost approximately $4,263,400. As stated in the previous article referred to, the line will be built of 8-inch pipe and welded. Diesel engines being used for power at the pump stations. The first station on the line will be constructed at Kings Mill, the second at McLean, Tex., and the others in the vicinity of Carl, Blair, Snyder, Geronimo and Addington, Okla. The Prairie already has an 8-inch line from Addington to Ringling which will serve to connect the Panhandle line with the main line at Ringling.

Capacity 25,000 Bbls. Daily

The line will have a capacity of 25,000 bbls. daily and to insure continuous operation, each pump station will be equipped with two 400-horsepower Diesel engines and two 25,000-bbl. capacity pumps. The pipeline will be placed in a 40-inch ditch to get it under the frost line and aid in keeping the oil from freezing.

The Prairie Pipe Line Co. does its own construction work and the line will be built in easy stages, it not being planned to run any oil through the line until next spring. It will require probably six months to build the line.

The Prairie Pipe Line Co., as well as producing companies operating in the Panhandle Field, have been experimenting for a long time on best methods for handling Panhandle crude which congeals at a temperature of about 55 degrees and which contains not only an abnormal quantity of sulphur, but also much wax. Some contains water and salt to add to the problem of the refiners and transportation companies. Various chemicals have been offered and tried for the purpose of breaking down the viscosity of the crude and some pipeline men have contended the only way to handle the oil is to keep it moving under high pressure, the pressure and friction of the pipelines, maintaining the crude at a sufficient temperature to keep it in liquid form.

Can Handle the Crude

Officials of the Prairie Pipe Line Co. are confident they will not have any trouble in transporting the oil through the 8-inch and will continue their experiments as to the best methods of handling it during this winter while the pipeline is being built. The Prairie Pipe Line Co. constructed a gathering system for the Prairie Oil & Gas Co. to the tank farm at Kings Mill and this gathering system provides the means of carrying out experiments with Panhandle crude.

Should it be found desirable to increase the capacity of the line, other 8-inch lines will be constructed along the same route.

Construction of the line to Ringling, Okla., will make Panhandle crude easily available to every market in the country. The main line of the Prairie Pipe Line Co. extends through Ringling, going north to the refineries at Wood River, Ill., connecting there with eastern pipelines, and to Whiting, Ind., and south to Mexia, Tex., and thence to Smith's Bluff, Tex., the latter being the former Pure Oil pipeline.

Other Lines at Junction

Should crude oil purchasers on other pipelines desire Panhandle crude, Ringling and Addington provide ideal junction points as, in addition to the trunk line of the Prairie Pipe Line Co., there are three other main oil trunk lines there. The Oklahoma Pipe Line Co.'s line extends from Ringling east to DeQueen, Ark., where it connects with the Standard Oil Co. of Louisiana's line to the big refinery at Baton Rouge, La. The main trunk line of the Magnolia Pipe Line Co. extends south through Addington to the Gulf of Mexico at Beaumont and Port Neches. The Sinclair Pipe Line Co. has an 8-inch line extending east and west at Ringling and Addington which connects with the main line at Healdton, the main line extending north to the refineries at East Chicago and south to Houston, Tex.

There will be adequate crude oil in storage in the Panhandle Field to keep the pipeline busy for a long time. On August 1 there was 2,294,115 bbls. in steel storage, 933,938 bbls. of which was placed in storage during July. It is estimated a far greater quantity was placed in storage during August as production was much higher and facilities for transporting the crude from the field not any better than during July, hence it is safe to say there is approximately 3,500,000 bbls. of crude in storage in the field now. Many companies are erecting steel storage as fast as the material can be procured and erected and when present storage building plans are completed, there will be tankage in the field with a capacity of between 8,500,000 and 9,000,000 bbls.

Building Considerable Storage

The Prairie Oil & Gas Co., which will tender its crude through the line being built by the Prairie Pipe Line Co. is building storage for 1,000,000 bbls. at Kings Mill and the pipeline company is building a gathering system, extending from Kings Mill for the oil and gas company.

Production of the Panhandle Field for last week averaged 116,690 bbls. a day, a large part of which went into storage because of lack of facilities for handling the crude. The building of the pipeline by the Prairie is expected to encourage operators and producers in the field as it provides the first direct outlet for the production of the field, aside from tank cars, and gives the big area direct connection with the crude markets of the country.

There has been considerable discussion as to the possibility of the Gulf Pipe Line Co.'s building a line to the Panhandle Field to connect with its main trunk pipeline system at Breckenridge or Ranger, Tex. It is understood a preliminary survey was made for such a line but no official announcement has ever been made as to whether a line would be built. Other pipeline companies have considered entering the Panhandle Field but it is not believed any of the other pipeline companies regarded as being affiliated with the Standard companies will construct lines to the field now that the Prairie has started work on its line.

The steel storage report for the Panhandle Field, as of August 1, showing the quantity of crude in storage then, the room available and the construction work then being done, follows:

RECAPITULATION OF STEEL STORAGE

The Texas Panhandle District as of August 1, 1926

District—	No. Tanks	Capacity	Stock	Room
Carson	4—80,000			
	15—55,000	1,145,000	725,892	419,108
Gray	1—80,000			
	18—55,000	1,070,000	746,439	323,561
Hutchinson	4—80,000			
	25—55,000	1,695,000	762,095	932,905
Wheeler	2— 5,500	11,000	8,683	2,317
Potter	1—55,000	55,000	51,006	3,994
Total	9—80,000			
	59—55,000			
	2— 5,500	3,976,000	2,294,115	1,681,885

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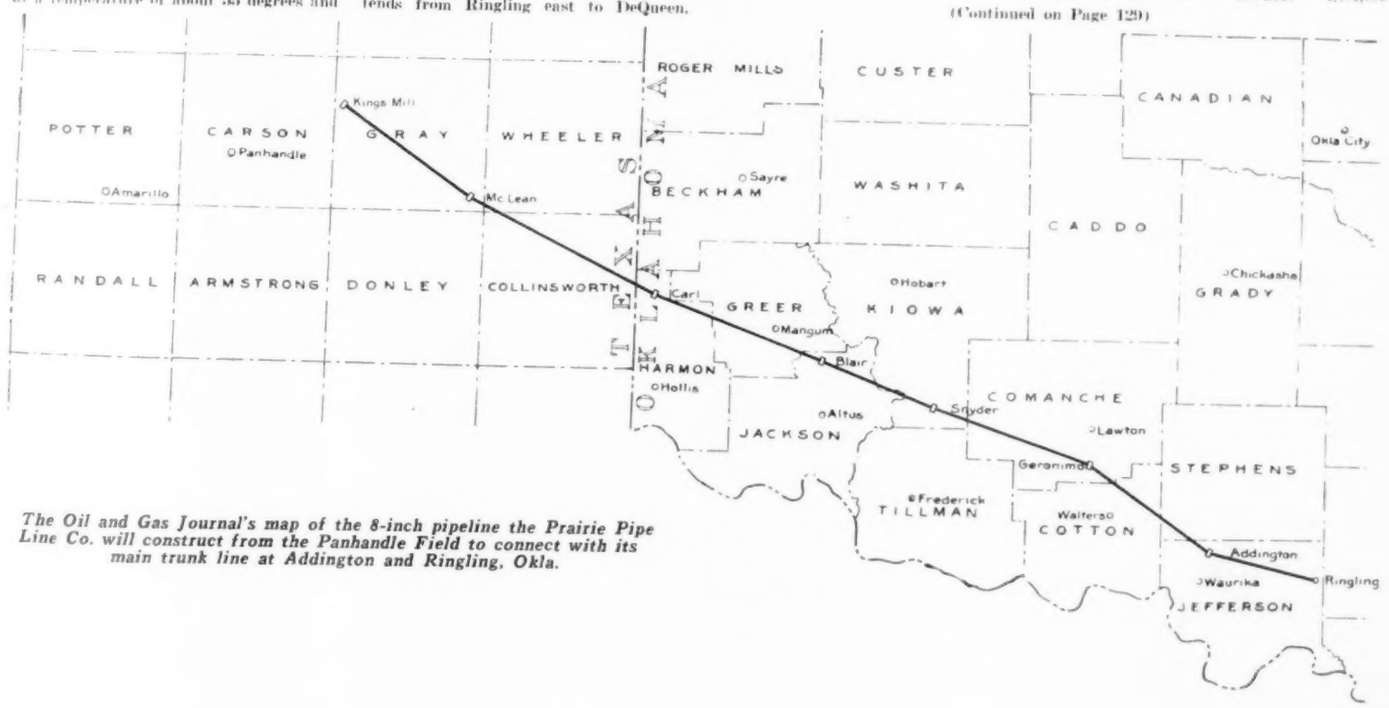


The Oil and Gas Journal's map of the 8-inch pipeline the Prairie Pipe Line Co. will construct from the Panhandle Field to connect with its main trunk line at Addington and Ringling, Okla.

Various Methods of Restoring Pressure

Using Water, Compressed Air and Gas and Soda Ash to Recover Riches of the Bradford Sand

By James McIntyre

BRADFORD, Pa., Aug. 28.—With over 250 strings of tools busy drilling holes in the Bradford-Allegany area in northwestern Pennsylvania and southwestern New York, these ancient fields, which rose to the height of their production in the early 80s, are presenting a continued revival that is the wonder of the industry. Outside the activity in Hutchinson County, in the Texas Panhandle there is no pool in the United States that presents more activity than the Bradford Field.

So great is the scope of field work here that it has given rise to the belief that the present day operations exceed those of the busiest days of the Bradford Field in the 80s. This is an error, of course, as in the early days of the field there were at times twice as many wells being drilled in the Bradford district as at present, and in much less territory.

This power house on a lease of the Petroleum Reclamation Co. was built on a 25 per cent grade. It now houses a big gas engine and a large bandwheel power capable of pumping 36 wells from hilltop to the valley. It proved that a bandwheel power could be successfully used under such trying conditions. The engine is about 18 feet higher than the power. A nice adjustment of the belting installation was necessary to assure smoothness of operation.

It was to show this fact to a veteran Bradford operator that the writer referred to that valuable book, "The Derrick's Handbook of Petroleum" Volume 2. Turning the book open at random we happended to come to Page 322, a page of the Bradford Field Chronology and found the following under date of May 1, 1880, which will be interesting to old timers as well as present day operators in the field. This was the paragraph for May 1:

"The Era's monthly report of operations in the Bradford Field shows April (1880) to have been the banner month in the history of the field to date. Large shots used throughout the field have tended to increase the production and the different portions of the field average about the same. Up to date 7,007 wells have been drilled in the Bradford Field and of these 6,758 are producers of oil at the present day. During April there were 423 wells completed, an increase of 88 over the previous month, while the new production was 10,795 bbls., an increase of 2,580 bbls., and the dry holes numbered only 7. Kendall Creek completed the greatest number of wells, 111, having a new production of 2,871 bbls.; but Cole Creek, with but 75 wells, had 3,117 bbls.; Oil Valley, 40 wells and 766 bbls.; Indian Creek, 42 wells, 830 bbls. The new work had fallen off slightly from the previous month, the total increase being 91 rigs and drilling wells. The figures for the first day of April were 469 rigs and 501 wells drilling, a total of 970 operations. Kendall Creek leads with 240 rigs and drilling wells; Cole Creek, second with 166; East and West Branches 109; Summitt, Marion and Rixford, 68; Tram Hollow, 57; Oil Valley, 89; Indian Creek, 67, and Kinzua, 35. The Kinzua region shows up on this date with another gusher in J. M. Guffey's No. 17, which starts at 120 bbls. a day."

That was before the immense Bingham tract was discovered to be oil bearing, which discovery added many thousand acres to the Bradford Field.

There was no need to go farther to prove that Bradford was busier in its big booming days than it is now. No doubt other months broke the record of April, 1880.

"Gusher" of 120 Bbls.

Attention is called to the sentence which tells of the completion of a "gusher which started at 120 bbls. a day." This is a significant item. In the heyday of operations in this field of hard, tight sand, the wells averaged 25 bbls. in their early stages. A 50-bbl. well was notable; a 100-bbl. well was a whale of a well. Elmer Bryner, of the Minard Run Oil Co., says he recalls one well in the early days of the Bradford Field that came in at 500 bbls. and this was the largest well he has ever known of in his long experience in northern McKean County operating.

Recently, on an old lease on the Bingham tract, the Associated Oil Co. drilled a well which started at 89 bbls. in 18 hours, or at the rate of over 119 bbls. per day. The head was not off at the end of the 18-hour test, and the well, it is believed, could have produced for the full 24 hours at the same rate.

This well, drilled after the field was 51 years old and on a lease on which there had been development covering a long period of years, was a far better producer than any wells produced on that lease in the old days of natural flowing and pumping. The excessive deposit of oil was caused by the action of the water drive or "flood" aided by the use of compressed air. While this was an unusual well in these days of good flood wells, it illustrates the potentialities of the flood and the air in driving oil ahead of it and depositing it where only the drill and a shot of nitroglycerin is needed to recover the production.

The present unusual activity in this field and the Bolivar-Richburg district in the Allegany Field is prompted by the desire of operators to recover the tremendous oil content left in the sands in both fields in the shortest possible time. The South Penn Oil Co., (Standard), the Petroleum Reclamation Co., the Forest Oil Co. and the Associated Producers Co. (Tide Water Oil Co.), all have big drilling programs for the remainder of the year, while the hundreds of individual operators and firms in the two fields will lose no time in developing their holdings.

Forest Oil Co.'s Activities

The Forest Oil Co. is the most active company in the field. It is well financed for a big drilling campaign and the recent announcement that it would drill 124 wells in the Knapp Creek district, on recently acquired leases and that the work would be pursued as fast as the wells can be put down is only a part of the company's program as it applies but to one portion of the big area covered by the Bradford Field, and the company has a large acreage in other parts of the field and in the Allegany Field.

The Forest Oil Co. is credited with having had more success with flooding on its Richburg and Bradford leases than any other company. The credit for this is given Forest Dorn, president of the company, who worked out a system of triangular flooding, which has been several times explained in The Oil and Gas Journal, and which has been adopted by many other operators in the two fields. There is another and a successful method of flooding in use in the field which floods from the outside inward, with alternate intake water wells and pumping wells drilled all around and directly on the property line. This method to be quite satisfactory requires cooperation among offsetting producers.

Theoretically a perfect line flooding system covering all of a productive territory would work out something like this: Every operator within the outer circle of producing properties enters into an agreement with his offset neighbors to drill alternate water wells and pumping wells directly on the property lines, each operator bearing an equitable share in the expense of the drilling program and each owning every alternate pumping well on his line. To prevent all dispute as to the oil, each line well is provided with its own flow tank and each line well is operated by its owner. This gives a perfect system of inside flooding for all but the outside fringe of leases on the edges of the field, on which the owners would find it necessary to drill their own line wells on at least one side of their respective properties.

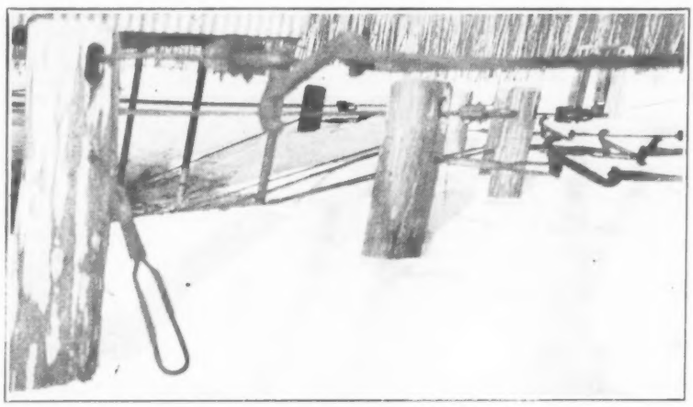
However, there is no part of this or any other field where such perfect unity of operation has ever existed, and in this field the line floods are put into operation when an operator has neighbors who will go along with him in the execution of the plan. It works out beautifully, and the process of flooding appears to be as satisfactory as the Forest Dorn plan of running a line of water wells across the center of the broadest side of the lease and permitting them to flood outward, although it is claimed by the adherents of the Dorn system that it gets the oil out in shorter time than by means of the line flood.

A relic of other days. All the ancient equipment on this lease has been removed and a modern pumping system installed.

Flooding Aided by Air

The Petroleum Reclamation Co. has, its engineers believe, improved on the line flood by applying compressed air to one or more wells in the center of its properties thus exerting a pressure both ways, the water pressing from the outer edges toward the center and the air pressure forcing the oil from the center until the two floods of oil meet and the resultant production recovered from oil wells judiciously spaced and located.

The Associated Producers Co. uses air to supplement the water pressure on intake wells and is satisfied with the experiment thus far. It has not done this on all its properties and is using compressed air, or compressed gas where gas is available, in the operation of some of its numerous leases, while others are being permitted to yield their production with the aid of water pressure alone. The permanent policy of the company will be worked out when time has proven which is the best method.



Pull rod equipment for pumping wells in the Bradford Field. Their positions when active and when idle are shown by the two nearest equipments. To release the rod from the power the C hook is attached to the loop in the guy wire on the in stroke. Then on the out stroke the line from the power frees itself from the horn in the hook.

The South Penn Co. Operating

The South Penn Oil Co., one of the Standard group of producing companies, and which perhaps owns and operates more oil wells than any other corporation in the oil industry—most of the

(Continued on Page 138)

Rapid Expansion in Natural Gasoline

New Plants Being Built in Mid-Continent With Several Enlargement Programs. Numerous Portable Installations

By Neil Williams

Possibly at no other time in its history has the natural gasoline industry experienced such rapid expansion in the Mid-Continent Field as it has in the last few months. The great number of new plants started up, or now being constructed, has marked this summer as being a period of rapid development in gasoline production in the Mid-Continent.

On June 1, The Oil and Gas Journal compiled a directory of all natural gasoline plants in the country, showing 532 plants in the Mid-Continent. Since then, the 30 plants reported building at that time have been completed and between 30 and 35 others have been installed or construction started.

This expansion is due to some extent to the development of the portable plant and the growing popularity of this type of equipment. The ease and speed with which these plants can be set up has made it possible to scatter plants freely wherever gas is available.

Apparently this has been the trend this summer as the great majority of the new plants have been of the portable type. Portable plants are being installed in virtually every district, and, not only by small producers but also by some of the large operators.

Installation of a permanent plant always has been comparatively slow and risky due to the uncertainty of the gas supply before portable plants became generally known. In many cases it was found more expedient to pipe the gas to old plants even at a distance, rather than take the chance of building new.

At the present time, portable plants can be rushed to any new source of gas supply, even in distant parts of the field, and at comparatively low cost. Operators have taken advantage of these features with the result that more plants are going into operation than ever before. In several cases smaller companies are installing plants on their locations rather than selling their gas to other plants.

The increased oil development this summer due to the higher crude prices also has made more gas available, so with the desire to conserve all the gasoline possible, operators have been influenced more than ever before in building plants.

More Permanent

However, the expansion has not been confined to portable plants. A number of important permanent plants have been built or are under course of construction, particularly in the Panhandle Field. In addition, scores of old plants are being enlarged with new units and other improvements made.

Considering this, the Mid Continent gasoline industry is not just boosting portable plants but is experiencing a real building wave with all operators ready to reach out in every way to conserve their gasoline resources by providing ample extraction equipment.

With each of the new plants capable of turning out at least from 2,000 to 3,000 gallons of gasoline daily, the total daily production of the Mid-Continent is being greatly enhanced. Several of the new plants will have a rated capacity of 15,000 gallons daily and others will range from 5,000 to 10,000 gallons. Even one portable plant with a rated capacity of 2,000 to 3,000 gallons is reported by its owners as manufacturing 6,700 gallons daily ever since its installation nearly a month ago.

In the June 1 list of plants compiled by The Oil and Gas Journal, the Mid-Continent natural gasoline capacity was placed at 3,275,170 gallons daily. With the new plants this figure will be increased at least from 50,000 to 75,000 gallons daily.

PARTIAL LIST OF NEW NATURAL GASOLINE PLANTS IN OKLAHOMA AND TEXAS

Company and Offices—	Plant Loc.	Type	Status
OKLAHOMA			
Amerada Petroleum Corp., Tulsa	Healdton	Portable Absp.	Operating
	Wewoka	Portable Absp.	Operating
Atlantic Oil Producing Co., Tulsa	Okemah	Portable Absp.	Operating
	Slick	Portable Absp.	Operating
Carter Oil Co., Tulsa	Seminole	Portable Absp.	Operating
	Seminole	Portable Absp.	Building
Empire Gasoline Co., Bartlesville	Seminole	Portable Absp.	Operating
Gilmore, Forest E. & Co., Tulsa	Mannford	Perma'nt Absp.	Operating
	Mounds	Perma'nt Absp.	Operating
Glomar Gasoline Co., Tulsa	Mannford	Perma'nt Comp.	Operating
Independent Oil & Gas Co., Tulsa	Seminole	Portable Absp.	Building
Magnolia Petroleum Co., Dallas	Davenport	Portable Absp.	Operating
	Wewoka (2)	Portable Absp.	Operating
Major Gasoline Co., Tulsa	Kelleyville	Portable Absp.	Building
Globe Gasoline Co., Blackwell	Blackwell	Portable Absp.	Operating
	Blackwell	Portable Absp.	Building
	Peckham	Portable Absp.	Building
Mid-Continent Petroleum Corp., Tulsa	Tulsa	Portable Absp.	Operating
	Welcetka	Portable Absp.	Operating
Roxana Petroleum Corp., Tulsa	Mannford	Portable Absp.	Operating
	Ingalls	Portable Absp.	Operating
Shaffer Oil & Refining Co., Tulsa	Chapman	Perma'nt Absp.	Operating
	Kelleyville	Portable Absp.	Operating
Signal Gasoline Co., Inc., Los Angeles	Bristow	Perma'nt Absp.	Operating
The Texas Company, Houston	Beggs	Perma'nt Absp.	Building
Wentz Oil Corp., Ponca City	Tonkawa	Portable Absp.	Building
Wright, J. H., Kelleyville	Kelleyville	Portable Absp.	Operating
TEXAS			
Amarillo Producers & Refiners, Amarillo	Borger (2)	Portable Absp.	Building
Amerada Petroleum Co., Tulsa, Okla.	Coleman	Portable Absp.	Building
Col-Tex Sunburst Oil Co., Amarillo	Borger	Portable Absp.	Operating
	Borger	Portable Absp.	Building
Empire Gasoline Co., Bartlesville, Okla.	Pampa	Portable Absp.	Operating
Gas Chemicals Corp., Denver, Colo.	Panhandle Field	Perma'nt Absp.	Building
Humble Oil & Refining Co., Houston	Woodson	Perma'nt Absp.	Building
Phelps Gasoline Co., Lela	Lela	Portable Absp.	Building
Phillips Petroleum Co., Bartlesville	Hutchinson County	Perma'nt Absp.	Building
	Hutchinson County	(4) Charcoal Ab.	Building
Roeser & Pendleton, Breckenridge	Albany	Perma'nt Absp.	Building
Roxana Petroleum Corp., Tulsa, Okla.	Pantex	Portable Absp.	Operating
Skelly Oil Co., Tulsa, Okla.	Hutchinson County	(4) Charcoal Ab.	Operating
	Hutchinson County	Perma'nt Absp.	Building
	Hutchinson County	(3) Charcoal Ab.	Building
Wilcox, H. F., Oil & Gas Co., Tulsa	Pampa	Portable Absp.	Building

Phillips Program

Some of the biggest development work is being done by the Phillips Petroleum Co. in the Texas Panhandle Field. This company has started work on its third oil absorption plant and is enlarging its two other plants. The third plant, will have 11 units. Three units also are being added to one of the other plants and four units to the other. In addition the company is building four charcoal plants in the field. When the oil absorption and charcoal plants are completed the company will be in a position to handle 125,000,000 feet of gas daily.

The Panhandle also is the center of operations for a number of other companies. The Skelly Oil Co. is particularly active there being engaged in an absorption plant near Borger of 17 units. The company has four charcoal plants in operation in that field with three more under construction. The Skelly Oil Co. also has a new 7,000-gallon plant at El Dorado, Ark., of the portable type and other units will be installed there in the near future.

The Gas Chemicals Corp. of Denver, Colo.; Roxana Petroleum Corp., Col-Texas Sunburst Oil Co. and Amarillo Producers & Refiners Corp. are building or have new plants in the vicinity of Borger, Tex., in the Panhandle. The Gas Chemicals Corp. plant will be permanent equipment, being constructed by Coyle & McGuire. Foundations have been laid for the engines, tank and distilling units and the entire plant will be in operation by November 1. In the Pampa Field of the Panhandle the H. F. Wilcox Oil & Gas Co. and the Empire Gasoline Co. have new plants.

The Amarillo Producers & Refiners Corp., which formerly was the Big Four Refining Co., is moving in two portable units at Borger. Roxana already has its portable plant in operation. The Col-Texas Sunburst Oil Co. also has just completed one portable and is installing a second while the Wilcox company is building its first there.

Among the larger plants going in are those of the Humble Oil & Refining Co. at Woodson, Tex., and Roeser & Pendleton at Albany, Tex. Both will be permanent plants. The Humble will have the first unit of its plant ready by the last of September. This plant in which a quarter interest is held by the Reiter-Foster Oil Corp., will have a rated capacity for the first unit of 20,000 gallons daily. Additional units will be installed at the will of the Humble company.

The Roeser & Pendleton plant at Albany will have a capacity of 15,000 gallons daily, the equipment being installed by the Newton Process Manufacturing Co.

In addition to its Pantex installation, Roxana Petroleum Corp. also has a new portable plant at Mannford and one at Ingalls. Both are now being operated. Amerada Petroleum Corp. recently put into operation Southwestern portable plants at Healdton and Wewoka, Okla., and has added two units to its Tonkawa, Okla., installation. Amerada recently sold its Davenport plant to the Victor Gasoline Co. and moved one Mehan plant to Wewoka, making a total of five at Wewoka. The company now is engaged in setting up another portable at Coleman, Tex., to be in operation within 30 days.

Oklahoma Plants

Two plants reported in the June 1 survey of The Oil and Gas Journal as being built by the Forest E. Gilmore Co. have been completed. These are permanent absorption plants at Mannford and Mounds, the former having a rated capacity of 7,000 gallons and the latter 8,000 gallons daily. Neither plant is operating near capacity.

Independent Oil & Gas Co. is building its first gasoline plant. This company originally was an oil production firm, and only a year ago entered the refining end by purchasing the refinery of the Allied Refining Co. at Okmulgee. Now the company has started natural gasoline production. Its first plant will be in the new Seminole Pool, the plant being of the portable type designed by the Newton Process Manufacturing Co.

Other companies also are entering the Seminole Field with plants. The Empire Gasoline Co. of Bartlesville has completed a portable there as has the Carter Oil Co. of Tulsa. Carter also is building a second portable which will be in operation shortly. The latter company's plants are of the Braun type. The Empire Gasoline Co. has completed another portable plant at Pama, Tex.

Shaffer Oil & Refining Co. has two new plants, one a three-unit absorption plant at Chapman and the other a portable at Kelleyville. These were building in the last report. Signal Gasoline Co., Inc., of Los Angeles, also has completed its 5,000-gallon absorption plant at Bristow.

In Kay County, Oklahoma, several new plants have gone in. The Globe Gasoline Co. completed its first plant, a Southwestern portable, at Blackwell only a month and a half ago, and now is installing two other portables, one at Blackwell and the other at Peckham. The Wentz Oil Corp. also is installing a portable at Tonkawa. This will augment a 20,000-gallon absorption plant at Tonkawa. Wentz has another plant, a 5,000-gallon plant, at Peckham.

Another company to expand its natural gasoline facilities noticeably in the last few months has been The Texas Company. This company has purchased several natural gasoline companies and now is building another absorption plant at Beggs. This plant will be in operation in the near future.

Portables Installed

Other portables installed have been: Magnolia Petroleum Co., two units at Wewoka and one at Davenport; Atlantic Oil Producing Co., one unit at Okemah; J. H. Wright, one unit at Kelleyville; Phelps Gasoline Co., one unit at Lela, Tex.; Mid Continent Petroleum Corp., one unit in the Country Club Pool at Tulsa and one at Welcetka. The Atlantic Oil Producing Co. also is building another unit at Slick as is the Major Gasoline Co. at Kelleyville.

One compression plant has been reported completed recently, that being by the Glomar Gasoline Co. at Mannford. This plant has a capacity of 800 gallons daily.

A number of important plants have been completed in Arkansas and Louisiana Fields, among which are: Simms Oil Co., 4,000-gallon absorption plant at Smackover; Lion Oil & Refining Co., 4,000-gallon absorption plant in the El Dorado Field; Lisbon Gasoline Co., 8,000-gallon absorption plant at Lisbon; Southern Carbon Co., 5,000-gallon absorption plant at Greenwood, La.; Magnolia Petroleum Co., 1,000-gallon compression plant, Norphlet, Ark.; Root Refineries, Inc., Eldorado; Ohio Oil Co., a 3,000-gallon absorption plant at Cotton Valley; Palmer Oil Corp., a 3,000-gallon absorption plant at Cotton Valley. The National Gas Products Co. also is building a 3,500-gallon absorption plant.

In Kansas the Sinclair Oil & Gas Co. and the Lewis Gas Products Co. have new plants, the former an 8,000-gallon compression plant at Madison and the latter a 6,000-gallon absorption plant at Winfield.

Russian Sales of Oil Exceed Output

Increase Production 16.9 Per Cent While Total Marketed Increased 38.5 Per Cent. How Soviet Trusts Are Financed

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 30.—The scientific and commercial analysis of the Russian petroleum industry prepared by a special committee appointed by the Soviet Government to obtain information for its own purposes only, contains an extended report on the sales, both export and domestic of the Russian oil industry. The report also explains methods of financing the Soviet oil trusts and gives a particularly illuminating view of the Russian oil industry which could hardly be obtained from any document issued from Russian sources from more or less propaganda purposes.

This report is for the fiscal year 1924-25, which ended October 1, 1925.

"In the year under review," the report says, "the total sale of products in Russia as well as abroad (except Persia) was 5,787,000 tons as against 4,176,100 tons in the previous year, an increase of 38½ per cent. At the same time the increase of the output of crude oil in the trusts of the union was on 16.9 per cent. Thus the increase of sales was more intensive than output. In the previous year, as known, the case was just the opposite; the total output was 4,573,400 tons, from which only 4,176,000 tons were realized. The output dominated the sale by 9.8 per cent."

The Soviet oil industry had outlined prior to the year under review the probable sales of all kinds that would be made and in this report the actual sales are shown by indicated percentages of increases or decreases as they relate to the program laid out for such sales. Referring to the sales of various classes of petroleum and its products after presenting detailed statistical tables, the report says:

"From these figures we see, that the real sales have considerably surpassed the sales, estimated in program (by 11.9 per cent) and by far the total sales of the previous year (28.8 per cent). This increase is noticeable in all products but especially in regard to kerosene (52.9 per cent) and benzine (50.8 per cent).

"In the first quarter there is an increase in the sales compared with the preceding year of only 9 per cent (in the program an increase of 16.2 per cent was foreseen) but in the second quarter the increase was 24.9 per cent and in the third quarter reached 43.0 per cent and only in the fourth quarter the increase fell off a little as a result of a reserved sale policy in fuel oil.

"The great progress of sales is due, first to the increased demand of the two principal customers: the railways, which instead of 1,426,000 tons, estimated as per program, have really used 1,620,000 tons, and, to a lesser extent, the metal and textile industries and also the 'Vodosvjet' (organization furnishing water and light in the big cities as Leningrad and Moscow).

"This increase was obtained through a special trade policy of the Neft-syndicate, directed to provoke a more extensive demand for oil products, by creating such economical conditions, which made it desirable and profitable to change the previously used fuel for liquid fuel. In consequence of the steps taken, the number of customers increased considerably.

"In practice this increase of new customers could not influence the sale much, as this change of fuel was accomplished at the end of the year under review, but has considerably increased the demand for this year.

"The sharp increase in the sale of kerosene (52.9 per cent) was caused principally by the increased purchasing capacity of the peasants and the increased use of tractors. The development of the railway transportation also had a certain influence."

Comparisons with the preceding year are given of the amount of oil turned over to different classes of buyers. Referring to kerosene the report says.

Buyers of Kerosene

"The most important buyers of kerosene are the co-operative organizations which during last year considerably increased their turnover, first of all for account of the private sellers and to a certain extent for the account of the Oil Syndicate's own oil shops. This circumstance, which is itself favorable and was accompanied by an intensive increase of the sale of kerosene, was a consequence of a determined protecting policy of the Neftesyndicate in regard to the co-operative organizations. This policy showed itself as well in the granting of allowances (2 to 5 per cent) as in the granting of three months' credit. The situation of the private merchant, who had very small allowances was such that he had to give up the kerosene market, only during the last months the part of the private seller began somewhat to increase, owing to the fact that more favorable conditions were granted to him.

"The prices of kerosene, regulated by the Narkomvnutorg (commissariate for home trade) were during the whole year on the prewar level, in certain places even lower. All these facts, of course, contributed to the increase of sale of kerosene.

"However, in spite of a considerable increase of consumption of kerosene in the country, this consumption is below that of the prewar period. Before the war, the consumption within the actual frontiers of the country amounted to 721,000 to 738,000 tons, i. e., the actual consumption is equal to about 80 per cent."

Lub Sales Grow

Reference is made to an increased use and sale of lubricating oils of high quality incident to the development of factories of the country. This was brought about the report says, by distribution of scientific technical propaganda to increase the use of more rational methods of lubricating. The high price of axle grease reduced such sales by introducing substitutes so that the sales for the year were only 8,270 tons against 14,740 tons and per the program of consumption prepared by the oil trusts and a trifle more than the actual sales of the previous year.

It is stated that prices in general of oil products showed no essential change from those of the previous year. An exception to this statement was shown by the price of fuel oil which for commercial purposes was reduced at Moscow and Leningrad about 5 per cent.

A statement based upon statistics included in the report shows the Soviet oil trust was furnishing fuel oil and kerosene at prices below prewar prices.

In illustrating the increased exports of oil products the report states:

Increased Exports

"The exports of oil products during the year under review sharply increased and amounted to 1,335,200 tons i. e., an excess in comparison to the preceding year of not less than 84.8 per cent and as compared with the prewar export represents 144.2 per cent of same.

"The amount of exports by far surpassing the prewar figures, proves the considerable success of the Neftesyndicate in respect to the conquest of foreign markets. This was to a great extent due to the strengthening of the political and economical relations of the Soviet Union with the west European states as well as with the nearest states of the Orient.

As a total, the increase of exports considerably surpassed, owing to self-evident reasons, the increase in production and interior consumption. As a matter of fact, the output has attained 76.4 per cent of the prewar figures, while the export surpasses these figures by not less than 41.2 per cent.

"The export activity of the Neftesyndicate develops very energetically, not only in regard to quantities, but also in regard to larger limits of work and extension to new countries.

"It has to be stated that the character of export has sharply changed under the influence of the conditions and of demands of the domestic market. While in the period of prewar years, as well as during the year under review, the exports consisted almost exclusively of light products, an immense quantity of fuel oil has been exported during the current year (more than 449,000 tons).

Lacks Storage Facilities

The principal obstacle against the development of the oil exports, it is stated, is the absence of tank tonnage and of proper installation abroad, together with the high cost of transportation of the goods from the place of production to the ports of the Black Sea.

Owing to the intensive development of export operations, the reports states, the part of these operations in regard to the total sale of oil products increases continuously; in 1922-23 the export to foreign countries amounted to 8.4 per cent of the total sales, in 1923-24 to 16.6 per cent and in 1924-25 to 23.5 per cent as against 12½ per cent in the prewar period. Thus in the past year one-fourth of the total production was absorbed by the foreign market.

That sales were increasing more rapidly than production is shown by the report for the year as fuel oil stocks diminished by not less than 23.8 per cent compared with the previous year. Normally, it is said, production is always due to surpass sales owing to conditions of transportation on the Volga which makes sales seven or eight months later than the period of production.

The most important and almost the only source for the oil trusts to obtain money necessary to cover the expenses to re-establish the oil industry and for current needs are the sums received from the Neftesyndicate for products delivered for sale, the report states. Besides this principal source the trusts have the benefit of certain bank credits and further have a small income from the supply of electric energy and the exploitation of railroads on the oil fields. Asneft has the first benefit of sums received from the delivery of oil products to Persia.

The committee further says that the analysis of the financial position for the oil industry is very difficult in view of

(Continued on Page 129)

GOVERNMENT REPORT ON PETROLEUM FOR 1925 SHOWS LARGE INCREASES

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 31.—According to final figures compiled by the Bureau of Mines, the production of crude petroleum in the United States for 1925 amounted to 763,743,000 bbls. This represents an increase over 1924 of 7 per cent and exceeds by over 30,000,000 bbls. the previous record figure made in 1923. Of the total production, 620,367,000 bbls., or 81 per cent, was light oil and 143,376,000, or 19 per cent heavy oil.

All the major producing areas of the country, with the exception of the Rocky Mountain district and the central states, that is, Ohio, Indiana and Illinois, registered gains over 1924.

In general, stocks of crude petroleum east of California were consistently reduced during 1925. On January 1, 1925, these stocks amounted to 321,114,000 bbls. as compared to 299,369,000 on December 31, a decrease of 7.3 per cent. All crude stocks, that is, refinery, pipeline, tank farm, foreign crude, petroleum held by importers and producers stocks shared in this decline. On the other hand, stocks of both light and heavy crude petroleum (including fuel oil) in California were increased.

Crude Prices Higher

Imports of crude petroleum during 1925 amounted to 61,824,000 bbls., a decrease from 1924 of 20.5 per cent. Mexico, with exports to the United States of 55,949,000 bbls., continued to rank as the most important outside influence as to supply. Imports from Venezuela amounted to nearly 5,000,000 bbls., as compared to a little over 1,000,000 bbls. in 1924.

The total value at the wells of the crude petroleum produced in the United States during 1925 was $1,284,960,000, an increase over 1924 of 25.6 per cent. The average per barrel was $1.68 as compared to $1.43 in 1924, a gain of 25 cents. The only value below $1 was in Arkansas, where the average per barrel was 89 cents as compared to 94 cents in 1924. This was the result of an overproduction of heavy oil.

With the exception of Alaska, where conditions are unusual, New York ranked first in average value, its production in 1925 being valued at $3.70 per barrel at the well.

On December 31, 1925, there were 306,100 producing oil wells in the United States, which is an increase of 7,000 over the total for 1924. The average production per well per day at the end of 1925 was 6.5 bbls., as compared to 6.2 in 1924. The total number of wells drilled in 1925 was 25,623, of which 16,559 were oil wells 2,330 gas wells, and 6,734 were dry holes.

Refined Products

According to final figures just compiled, there was run to stills in the United States in 1925 698,582,000 bbls. of domestic crude petroleum and 41,338,000 bbls. of foreign crude petroleum, a total of 739,920,000 bbls. This is an increase over 1924 of 96,201,000 bbls., or 15 per cent.

From the total crude petroleum run to stills in combination with unfinished oils and natural gas gasoline, there was recovered 259,601,000 bbls., or 35 per cent of gasoline, 59,689,000 bbls., or 8 per cent of kerosene; 364,991,000 bbls., or 49 per cent of gas and fuel oils; and 31,055,000 bbls., or 4 per cent of lubricants. Losses in refining in 1925 totaled 22,914,000 bbls., which is equivalent to 3 per cent of the crude oil run to stills.

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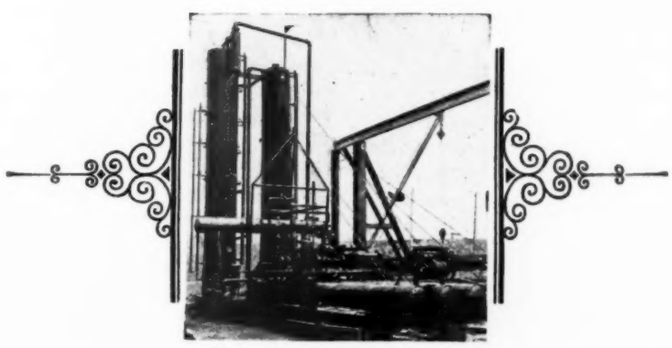

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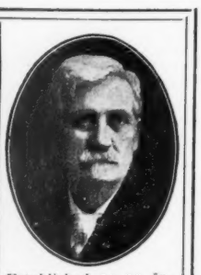
TULSA, OKLA.



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PETROLEUM AND PROSPERITY

What is happening in the Texas Panhandle is an old story in the oil business but if the general public could see it people would have a better appreciation of what the oil industry means to them.

The oil produced from the Panhandle is estimated as worth ten million dollars, but oil men have invested fifty millions in that area already. What that has meant to the development of the territory only those who saw the country a year ago and have visited it recently can realize fully.

It has put new life into the whole district. It has made over existing towns and built new communities. It is bringing in new rail facilities, new industries, new businesses. It is giving thousands of people and that entire section of the State a new chance in development. Everybody shares in the increased activity that the oil man's investment is promoting.

The same thing, in degree, is being seen throughout the west Texas districts where oil development is now going forward. These outposts of oildom are accelerating progress, pushing back the frontier, building up our common country.

When the oil man goes abroad, penetrating a new country in pursuit of petroleum, he carries civilization with him. In Venezuela, Colombia and Peru, he has had to build roads, erect houses, construct water, power and lighting systems to carry on his operations. He has made the wilderness fit to live in and whole populations have benefited.

He is a pioneer in the production of his raw material but his finished products have become a dominant factor in progress.

How true this is may not be perhaps as fully realized as it should be. The average man may think of the gasoline-propelled car as a pleasure vehicle or an adjunct to our general system of transportation. It is a good deal more than that.

Announcement was made a few days ago that the earnings of one great motor building corporation for the first six months exceeded the earnings of the vast steel corporation, which has stood so long as the greatest aggregation of capital in industry.

A leading New York banking house, commenting on this showing, observed that the operations of the automobile industry were mainly responsible for the continuance of unabated prosperity.

This may give a new idea to those who used to think of the motor vehicle as a mere luxury.

That way of thinking is as out of date as the old fashioned theory that cheap labor was profitable. Twenty million Americans are able to own and operate motor vehicles because they are well paid. And in supplying those motor cars thousands of industries employing millions of workers are furnishing profitable employment.

That is one of the differences between us and China, and in varying degrees between Americans and the peoples of continental Europe, and even England. In Canada and Australia, where the standard of living is nearest our own, are found the best markets for our motor vehicles.

But in recognizing the greatness of the automotive industry and the part it plays in our prosperity it should never be forgotten or overlooked that it could not have reached its present proportions and could not operate a day without the basic supply of motor fuel.

So if we are to give the motor industry credit for its share in our prosperity we must also give equal credit to the oil industry whose production, both of raw material and finished product and universal distribution of its products, have brought the automobile within the reach of practically every family in the country.

Had there been no oil industry, no gasoline, or even had the oil industry been less resourceful and efficient in producing constantly more gasoline from proportionately less crude, where would be the motor industry, the rubber industry and a large part of the steel, glass, and fabric industries that enter into the manufacture of motor cars today? And back of these, what of the employment given to those in the ore and coal and railroad industries which owe so large a share of their employment to the market furnished by the automobile industry.

Nor is that the end of the extensions of the benefits brought by the oil industry. All these people employed in all those industries are served with food, and clothing and shelter by industries and stores and transportation agencies, every one of which has had its share of the industrial and commercial and financial expansion that rests primarily upon the success of the men in the oil fields.

These are tangible benefits that anyone can see for himself. There would be less employment, less earned, if we were still getting along with the horse and buggy and the team and wagon. Those who are today employed in industries directly or indirectly busy because of the demand for motor cars can figure for themselves what they would be doing if the oil industry's efficiency had not made twenty million motor cars practicable.

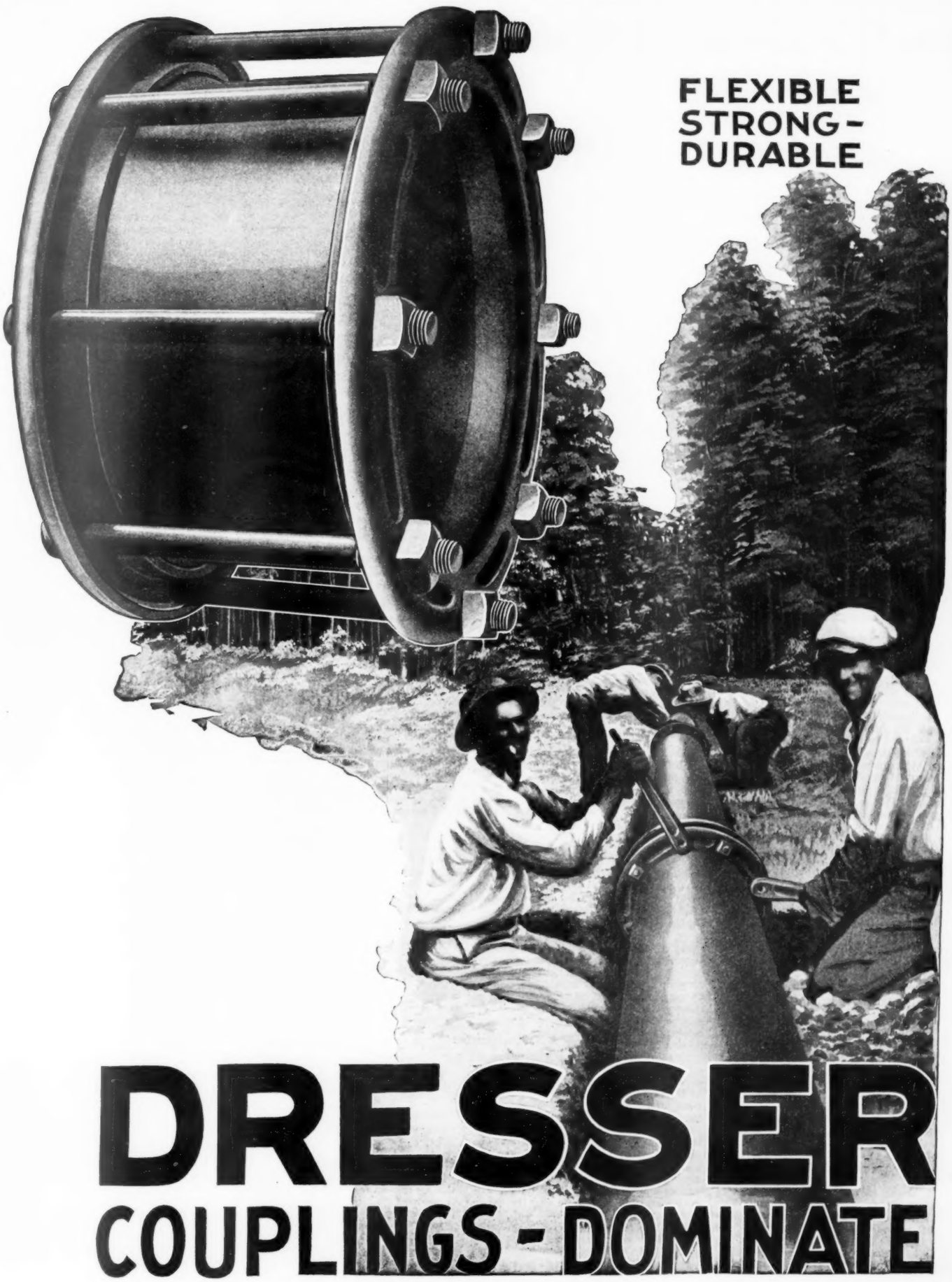
Oil men have done a lot more than replacing the covered wagon with the tourist's car or substituting the motor bus for the camel caravan across the desert. More even than in flying to the Pole in airplane and dirigible and hopping the Atlantic faster than the speediest greyhound of the seas.

Besides widening every man's horizon, making him acquainted with his country and his countrymen in every state of the Union, showing him the sights of the cities and the charm of the countryside, the industry that furnishes him with gasoline wherever and whenever he demands it has had a big part in promoting that general prosperity which enabled him to buy his car and operate it.

At the same time it has cheapened the cost of living by the most satisfactory method—increase in efficiency in handling and transportation. The hours formerly spent in getting to and fro and in waiting for material and goods are now devoted to productive effort or to well earned leisure.

Where the railroad and the steamship were limited by rail and water the gasoline propelled vehicle can roam almost at will for pleasure or profit-making thanks to an industry that is getting on an average as much motor fuel from one barrel of crude as it used to be possible to get from three barrels.

Had it not been for that achievement by the oil industry there would be no millions of motorists today, that much less employment and that much less prosperity for all of us. The oil industry deserves well of the country. It is an industry of which every man connected with it can be proud.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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SULPHUR IN ASPHALT

What is the normal quantity of sulphur which is found in natural asphalt and in what form is it?—C. J. E.

The hard asphalts have been found to contain from 3 to 10 per cent sulphur while the soft asphalts run from 0.5 to 2.5 per cent total sulphur.

The form in which this sulphur occurs is not definitely known but there is little doubt that the principal condition is that of the complex organic compounds of the mercaptan class. Where the conditions are favorable, such as the presence of hot water, sulphides and sulphates might be found. In the great deposit at Trinidad, where the material is in the fluid condition, there is a mixture water, organic material, mineral matter, and gas. The gas contains large quantities of carbon dioxide and hydrogen sulphide. Under these conditions, heat, water and hydrogen sulphide, there may be some formation of the acids of sulphur or their salts, also deposition of free sulphur.

Reference is made to this particular deposit because it has been studied more than any other and the lake is active. While some other deposits may not have had the same kind of origin it is thought that similar forms of sulphur may be found in the asphalt.

THICKNESS OF DISHED HEADS

Will you please give me the formula by which the necessary thickness of the metal for a dished still end may be calculated?—W. M. A.

The formula proposed by the American Society of Mechanical Engineers may be used for this purpose.

$$\text{Thickness of plate (ins.)} = \frac{5.5 \times P \times L}{2 \times TS} + \frac{1}{8}$$

P is the maximum allowable working pressure, pounds per square inch.

TS is the tensile strength. This may be assumed to be 60,000 pounds per square inch.

L is the radius to which the head is dished, inches.

Where two radii are used the longer shall be taken as the value of L in the formula.

Where the radius is less than 80 per cent of the diameter of the shell or drum to which the head is attached, the thickness shall be at least that found by the formula by making L equal to 80 per cent of the diameter of the shell or drum.

Further details about this subject may be found under section 196 of the A. S. M. E. Boiler Construction Code.

WAX FOR CANDLES

We have several candles in our home which have become quite yellow and soft, while others, purchased about the same time, have remained white and hard. Can you give me an explanation for this difference?—R. J. E.

Candles made from pure paraffin frequently darken because of traces of oil which were present in the original wax. This oil oxidizes in time and consequently imparts a yellow tinge to the wax. It is a common practice to harden wax which is to be used in candle making, with stearine and ceresine. There is some objection to the use of stearine because it is very difficult to obtain it free from animal oils and acids which may become rancid and therefore the yellow color may develop, together with an objectionable odor, from this cause.

Ceresine which is derived from ozokerite, a mineral wax, (see this department, August 19 issue) is preferred for the finer candles because it gives a good surface in addition to hardening the wax.

TOWERS

What are the relative efficiencies of plate, packed and bubble towers?—C. B. H.

The essential idea involved in the operation of any tower is that there shall be the greatest possible contact between vapors and liquid. The vapors must be broken up and scattered; the more uniform is this distribution, the more effective will be the ultimate separation of the light and heavy constituents present in the still vapors. Pools of oil function better than films.

It is clear that the perforated plate is a better form of construction than the solid plate. The size and number of the holes must vary with local conditions, which include temperatures and the rate at which it is desired to operate. The smaller the holes the better, because the small holes permit a larger volume of liquid to remain on the plate at a time through which the rising vapors are forced to pass. If the holes are too small there will be excessive accumulations of liquid which results in flooding when the still is run at a high overhead rate. Should the holes be very large there will be no liquid held on the plates and consequently the tower rendered inoperative. Where the conditions are favorable for continuous operation at a fixed rate, it appears possible that a perforated plate tower may be constructed in such a manner that satisfactory fractionation will be obtained, but under ordinary conditions this form of construction does not permit of much flexibility.

Towers may be packed with all sorts of materials, the choice of which frequently depends on the kind of crude or fraction to be refined. Pieces of iron, coke, stone, brick, tile and special packing are used. The fundamental idea of contact between vapor and liquid applies here as with the plate tower. The irregular nature of the material and the manner in which it is placed in the tower causes good distribution of the vapors and liquid, but there is very little pool formation and there may be extensive channelling.

The bubble plate type of tower, with its capped vapor outlets and its overflows, is of the liquid seal type and when properly designed is a very efficient fractionating unit. In it there are combined the several desired essentials for the best operation, including distribution of the vapors and maximum exposure to the liquid which has condensed from the heavier vapors. The overflow pipes, while arranged so as to maintain a good liquid seal, carry off the excess liquid without rendering the plates inoperative as when bare plates are used. The arrangement and number of the vapor outlets, together with the inverted caps, provides for good contact in the liquid and thus promotes separation. The bubble type plate tower permits changes in the overhead rate because the liquid seal is always a check to a very rapid flow which may occur in either direction; it is not so sensitive to changes in still conditions and is therefore more flexible, it is less influenced by outside changes in temperature, and better separation may be obtained at a higher rate than with the other forms.

All of these forms of plate arrangement have places in the industry and just what form to use will be controlled by the character of the fractionating or absorbing to be done. The plate form is the cheapest if expensive filling is used in the packed tower.

NONDETONATING PROPERTIES OF ANTIKNOCK GASOLINE

Are the nondetonating qualities of the antiknock gasolines revealed in the distillation tests by the range, or are these qualities due to the action of the unsaturated or naphthenic compounds acting as reagents or catalizers?—V. A. B.

Nondetonating, antiknock and no knock are terms employed to indicate a relative condition, because there is probably no gasoline on the market which is entirely free from detonation. The tendency of a gasoline to knock may be reduced to some extent, and the degree to which this is reduced has been measured in terms of tetraethyl lead or benzol. The distillation test would not indicate antiknock properties except that it is the opinion of some authorities that a low initial boiling point product will knock less than one having a relatively high initial.

Naphthenic compounds and some unsaturated bodies have a value as antiknock reagents. Compounds of the closed chain, or aromatic group, also have considerable influence in this respect. Low detonating characteristics are a direct function of composition, so the substance, or substances, must originate in the crude oil; be formed at some stage of manufacture or be added to the gasoline. Some kinds of petroleum contain substances which are more likely to form antiknock compounds than are those compounds which may be produced from petroleums which differ in chemical composition. Cracking processes produce antiknock compounds, and these may be formed in greater or less quantities according to the kind of charging stock used together with the temperature and pressure applied.

FUEL OIL ENGINES FOR AUTOMOBILES

Is any progress being made in the development of a motor which will operate on fuel oil?—A. C. O.

Some progress has been made in this direction in England, and The Petroleum Times has recently reported on some investigations of this character which were made in Canada, according to a paper which was read by A. C. Attendu before the Society of Automotive Engineers. It is reported that he and the Eastern Engineering Co. of Montreal had developed a small light-weight engine weighting 417 pounds for the United States Navy Department. This engine developed 91 brake horsepower at 1,525 revolutions per minute. Changes which were being made in the engine are expected to increase the horsepower to between 110 and 116, and reduce the fuel consumption to one-half pound per brake horsepower hour.

All the experimental engines have been designed with a view to the use of material and machinery in use by automobile manufacturers, so that all parts will be interchangeable in the same way that the parts of automobiles of the same model may be interchanged.

Experiments have been in progress for some years. In 1921, an engine was built of cast iron with four cylinders and weighed 1,100 pounds. Tests made at the McGill University, Montreal, led to the decision to build a second engine with solid fuel injection instead of air injection. This also was a four-cylinder engine made of cast iron, with a compression of 405 pounds to the square inch. It was of the two-cycle type, and had step cylinders for scavenging the combustion chamber. In preliminary runs this second engine started on the first few revolutions at a speed of 1,600 revolutions per minute. After various changes were made it developed 56 brake horsepower at 1,400 revolutions per minute, and consumed two-thirds of a pound of fuel per brake horsepower hour.

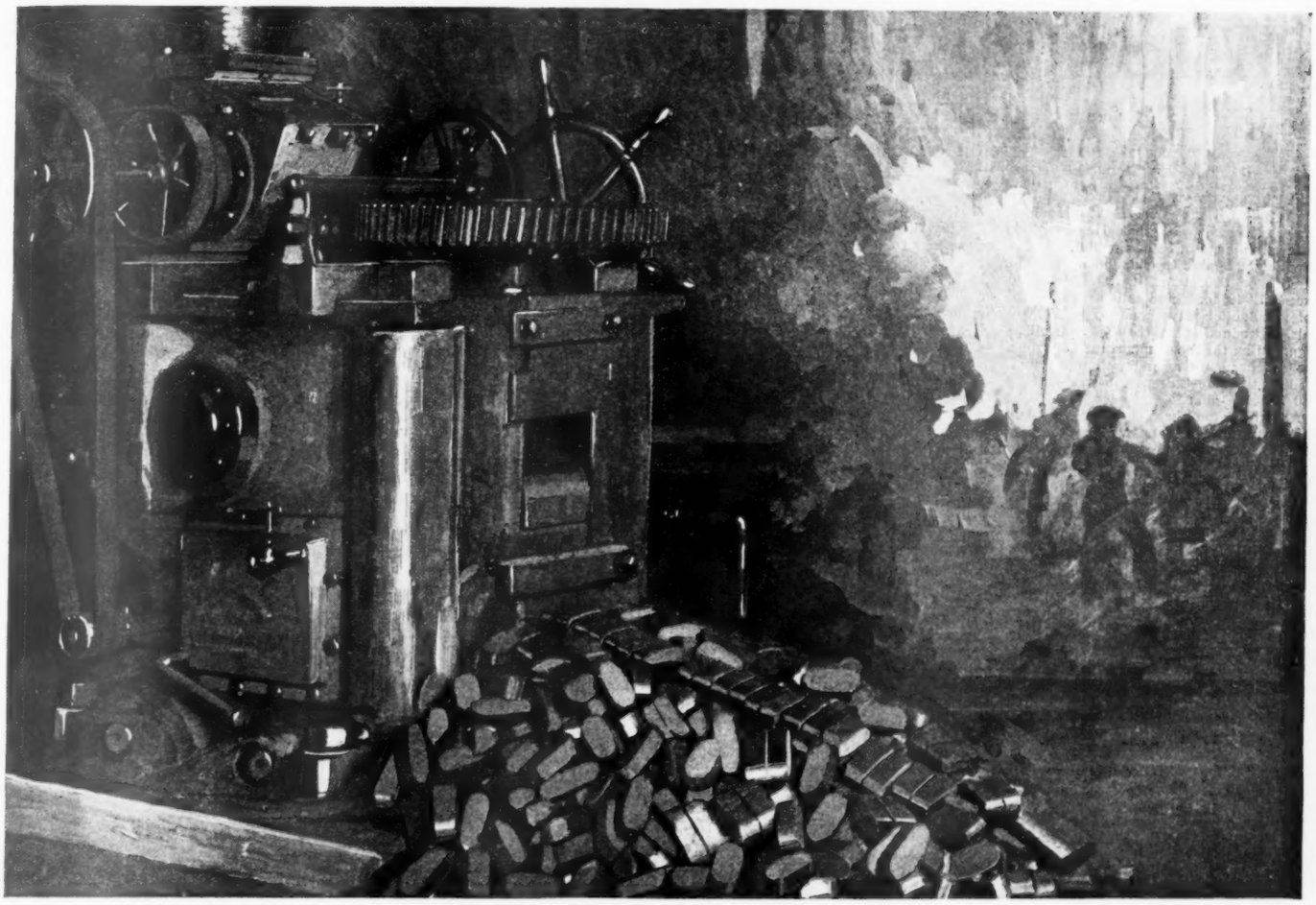
The new engine "idles" down to 120 revolutions per minute, and can be started from the dead cold after three to five revolutions with a 6-volt starter.

FARADAY REFRIGERATING MACHINE

Can you give me a description of the Faraday refrigerating machine or refer me to some book which describes it?—G. W.

Many of the larger textbooks on physics contain references to the work of Faraday on the liquefication of gases and the production of low temperatures. The compression and absorption apparatus of today are based on the principles which he demonstrated about 1823. At that time he announced that he had liquified ammonia, carbon dioxide, sulphur dioxide and other gases. The invention of the ammonia absorption machine is, however, credited to Carre, about 1855.

The absorption apparatus to which you refer was a small laboratory affair consisting of a U-shape glass tube. The stems of the U were spread out in opposite directions, both ends of which were sealed, and the tube was used for the experiment in the inverted position. He discovered that silver chloride had an affinity for ammonia, that is the ammonia gas was absorbed by the silver chloride. To demonstrate this fact he placed a quantity of silver chloride, which had been saturated with ammonia, in one end of the tube and then sealed the other end. One end of the tube was placed in a freezing mixture of ice and salt while the other containing the ammonical silver was heated. The heat developed pressure and at the same time caused the separation of the silver chloride and the ammonia. The ammonia gas passed to the other end of the tube, where under the influence of the low temperature and the pressure it was liquefied. Upon reversing the tube, Faraday found that when the silver chloride, from which the ammonia had been driven by the heat, was placed in the freezing mixture that the liquid ammonia in the other end of the tube would boil and produce a very low temperature. The cold ammonia gas was again absorbed by the silver chloride, so that by reversing the position of the ends of the tube, first from a hot zone then to a cold zone, etc., there would be put into operation an intermittent refrigerating machine.



Fernholtz Briquettes Emerging From the Press

A Large Market Awaits Fernholtz Briquettes

The market for Fernholtz Briquettes is infinitely large, comparable with that of the demand for anthracite. These briquettes have so many advantages over other fuel that the marketing problem will be that of attempting to satisfy the demand.

This demand will be national in scope and by reason of the very low manufacturing costs wide profit is assured and the prices obtained for the fuel will be consistent with the true fuel value.

An engineer of international repute, Dr. Gustav Egloff, declares: "It is estimated that within ten years' time there will be over ten millions of tons of oil-coke produced from the cracking re-action and in briquette form will have an economic value of over $100,000,000.00 per year. It may well develop that coke produced from the cracking re-action in some instances will be the major product of the cracking re-action and gasoline the by-product."

Before announcing the perfection of the Fernholtz Briquetting Process innumerable samples of oil coke were obtained from refineries throughout the country so that a thorough study could be given of each specimen briquetted under varying conditions.

Ask for Our Illustrated Booklet

PORTER & COMPANY

Briquetting Engineers

Board of Trade Bldg., Los Angeles, Calif.

Fernholtz Briquetting Process

Wilcox Sand Extension in Seminole

Gypsy Well Making 180 Bbls. An Hour Believed to Double Potential Producing Area of New Oklahoma Field

The discovery of the Wilcox sand in the Gypsy Oil Co.'s No. 1 Carter, which came in making 100 bbls. an hour, is believed to mean at least a doubling of the new Seminole area in Oklahoma. Instead of 400 or 500 acres it is expected to exceed 1,000 acres and estimates of probable production have gone up to 100,000 bbls. Production in the Gypsy well is regarded as the most important fact since the Independent-Garland well was found. Drilled three feet deeper it was making 180 bbls. an hour.

At Spindletop the Yount-Lee company has just completed one well on the McFaddin tract making 4,200 bbls. and another 5,000 bbls., this last of 28.2 gravity. Bashara Oil Co. got a 3,000-bbl. well making 36 gravity oil in the deep sand at Sour Lake.

The Texas Panhandle reported its largest increases in production, despite the shutting in of many wells. Hutchinson County was mainly responsible for the gain in output.

In North Texas, Montague and Brown Counties set a new record for production. A Jack County wildcat filled up with oil and in Young County a semi-wildcat made 200 bbls. in 12 hours. A Crane County well increased when it struck what is thought to be a second pay.

A wildcat gasser in the old Lawson area of Union County, Louisiana, ran wild, making 30,000,000 feet of gas and 20,000 bbls. of salt water.

In Southwest Texas the Simms Oil Co.'s No. 12 Palacious, in the Randado Field, made 70 bbls. an hour.

A well making 1,000 bbls. was reported from the Nash Dome in the Gulf Coast.

The southwest extension to Huntington Beach, California, seems to be in for a period of quick drilling.

Two dry holes were reported from Michigan, one of them, however, 5 miles from the Saginaw Field.

OKLAHOMA

The Gypsy Oil Co.'s No. 1 Carter, SE cor. NE NW, Section 24 9-6, in the Seminole Pool, was drilled deeper to a total depth of 4,178 feet and responded by starting to flow at the rate of 180 bbls. an hour.

The Amerada Petroleum Corp. and Gardner Petroleum Co.'s No. 1 Killingsworth, SE cor. SW NE, Section 23-9 6, has passed up the Hunton lime, where a 300-bbl. well was found. This test is going to the Wilcox sand.

In Pottawatomie County, the Darby Oil Co. and Independent Oil & Gas Co.'s No. 1 Standridge, SE cor. NE, Section 15-7-4, is drilling at 3,740 feet and the water has exhausted. The well made 150 bbls. on Monday of this week.

GULF COAST

HOUSTON, Tex., Aug. 31. — Yount-Lee Oil Co.'s No. 9 McFaddin, at Spindletop, is flowing 4,200 bbls. Bashara Oil Co.'s No. 1 fee, in the deep sand section at Sour Lake, is flowing 3,000 bbls. of 36 gravity oil. Yount Lee Oil Co.'s No. 10 McFaddin, at Spindletop, is flowing 5,000 bbls. of 28.2 gravity oil.

SPINDLETOP

HOUSTON, Tex., Aug. 31.—Late completions in the deep sand area at Spindletop Pool have brought the estimated daily average output up to 104,400 bbls. from 40 wells Sunday. The newest wells are larger than the original producers on the west side of the cap rock section. The Gulf Production Co.'s No. 2 Oakwood came in flowing 5,000 bbls. at 2,600 feet. Same company's No. 3 Roche started flowing 3,500 bbls. from 3,200 feet and increased to 9,000 bbls. Paggi & Co.'s No. 1 Gordon, listed as a 400-bbl. well at 3,450 feet in a previous report, was drilled 50 feet deeper and responded with a flow of 2,500 bbls. per day. The Rio Bravo Oil Co.'s No. 7 T. & N. O. showed salt water around 3,100 feet. Two sands were taken in with the strainer and it is believed the water came from the lower level. It is being plugged off. The Sun Oil Co.'s No. 3 McLean is resetting strainer at 3,500 feet.

The gross production is divided as follows (in barrels):

Company—	Gross Prod
Atlantic Oil Producing Co.	801
Rio Bravo Oil Co.	15,600
Sun Oil Co.	1,400
Yount-Lee Oil Co.	54,100
Gulf Production Co.	30,000
Paggi & Co.	2,500
Total	104,400

The 100,000-bbl. mark was reached more quickly than expected and a daily average of 125,000 bbls. is now predicted within 10 days. The lid is off with the completion of additional lines and the erection of tankage. Operators had agreed not to bring in any more wells until these facilities had been provided. Drilling wells nearing the sands and due to be completed during the week, barring accidents, include Gulf Production Co.'s Nos. 2 and 4 on the Mann lease; Nos. 5 Weed, 3 Oakwood and 4 Roche. The Yount-Lee Oil Co. has two on its fee acreage. The Atlantic Oil Producing Co.'s No. 4 McLean is due.

Not since the pool was opened in 1901 has such feverish drilling been witnessed in any Coastal pool. The northern operator can scarcely comprehend the idea of 40 producers on approximately 20 acres, most of them flowing, and then think of 40 more drilling, with derricks and locations for 21 additional. Such is the situation in the deep sand on the west side of the old cap rock. The cause for this hectic operating arises from the fact that the acreage is cut up into one, two, three and five-acre tracts, making for continuous offsetting. No such condition exists in the deep sand section on the southeast side of the dome. There the Yount Lee Oil Co. has all the acreage in one block, consequently the drilling on that side will be conservative.

Oldtimers in the Coastal country wag their heads and wonder when the collapse will come in the west side. Many of the wells there are now showing salt water and are pinched down. The salvation of the group of wells on that side lies in the fact that production is coming from half a dozen sands, varying from 2,800 feet to below 3,600 feet. Then, there is always the possibility that even lower productive sands will be found. Another hope is the possibility of extending the productive limits. Just now the trend is to the south.

Beaumont people are proud of Spindletop and its fame, and manifest their loyalty by investing in newly organized companies, which will try to extend the west side deep sand section. Most of the capital now engaged in development work, other than that of the major corporations, was raised in Beaumont.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Aug. 31.—Four oil producers and three gassers increased the daily oil production of the Laredo Field by 1,240 bbls. and the gas production by 74,000,000 feet through completions of the past week. Three Webb County fields and one Jim Hogg County field figured in this increased production. The largest individual well completed was the Grayburg Oil Co.'s No. 5 on Block 15, Survey 31, of the Weil ranch in Jim Hogg County, brought in at 1,305 feet, swabbing 1,000 bbls. per day.

Columbia Oil Corp. brought in No. 13 Puig, in Block 76 of the Edgington subdivision in the Aviator Field, Webb County, at a depth of 1,752 feet, making 100 bbls. per day. Magnolia Petroleum Co.'s No. 9 Palacious, on Survey 291, Randado Pool, Jim Hogg County, came in at 1,289 feet, making 70 bbls. per day. E. L. Smith & Maddox's No. 2 in Survey 291 of the Randado Pool in Jim Hogg County came in at 1,296 feet, making 70 bbls. per day.

Simms Oil Co. completed No. 4 on Survey 835 of the Aviator Field in Webb County at 1,592 feet as a gas well making 16,000,000 feet.

The Texas Co.'s No. 1, on Survey 84 of the Carolina-Texas Field in Webb County, made an estimated 8,000,000 feet of gas when completed at a depth of 2,614 feet.

The O. W. Killam Co.'s No. 4 Lopez, on Block 8 of Survey 319 of the Lopez tract in the Cole Field of Webb County, came in at 1,745 feet as a gasser making 50,000,000 feet.

O'Hern-Seacord's No. 1 on Survey 174, Webb County, 6 miles southeast of the Cole Field, gauged 55,000,000 feet of gas with a light spray of oil. The well proved a difficult proposition to handle. New valves had to be put in after it was brought in and the crew worked day and night in an effort to master the tremendous volume of gas.

Locations have been made in the vicinity of the O'Hern-Seacord well by Magnolia Petroleum Co., Max Buffum and others, and several others who expect to start drilling soon.

MEXICO

TAMPICO, Mex., Aug. 29.—Transcontinental Petroleum Co. scores the best well of the week in Mexican fields with its No. 24, Lot 1 Tanchicuin, in the Panuco Field. The well is estimated good for 10,000 bbls. at the shallow depth (for this division) of 1,870 feet. The pressure is exceptional, being 530 pounds. The next best completion is La Corona Petroleum Co.'s No. 124 Ojital, in the heart of the old Panuco Field, which is rated good for 3,000 bbls. at 1,565 feet, another shallow well.

NORTH TEXAS AND PANHANDLE

FORT WORTH, Tex., Aug. 31.—The Dixie company's No. 4 Hughes, Upton County, flowed 4,430 bbls., 4,364, 2,632 and 2,069 bbls., respectively, in the four days ending Monday with 50 per cent b.s. and water. The derrick now stands in the middle of a lake of oil. The Independent company's No. 6 Taylor is drilling at 2,170 feet. The Texas Company's No. 2 King swabbed 109 bbls. Monday from 2,301-40 feet. The Texas Company's No. 4 King swabbed and flowed 266 bbls. in 15 hours from 2,049-62 feet. The Texas Company's No. 2 Burleson swabbed 145 bbls., 127 bbls. and 85 bbls. in three days ending Sunday from 2,174-2,218 feet. The Humble company's No. 1 Ricker is drilling at 2,153 feet, with 800 feet of oil in the hole.

In Hutchinson County, the Sunburst Oil Co.'s No. 2 Smith, Section 14, Block Y, flowed 1,500 bbls. at 2,987 feet, but was allowed to paraffin up on account of lack of storage.

UNIVERSAL OIL PRODUCTS CO. DROPS TWO PATENT CLAIMS IN JENKINS SUIT

Claims on two patents mentioned in the original suit of the Universal Oil Products Co. against the Skelly Oil Co. involving an alleged infringement of cracking process patents, have been dropped, according to the bill of particulars which have just been filed in the Federal District Court of Delaware. The suit against the Skelly Oil Co. was the first of several filed last year and early this year by the Universal company, owners of the Dubbs process, against owners of other cracking processes.

The suit against the Skelly company is based on the Jenkins cracking process, six units of which are now in operation at the Eldorado, Kans., refinery of the company. It is expected that the taking of testimony in the Skelly case will start late this fall.

The patents which have been dropped by the Universal company in its suit against the Skelly company are Nos. 1,517,830 and 1,525,281. The latter refers to the production of coke in the operation of a cracking process. The former is one of several patents held by the Universal company which have to do with bubbling the vapors through oil pools in the dephlegmator with heat interchange with the charging stock.

Claims Made

The claims on which the Universal company suit will be based as explained in the bill of particulars are as follows:

As the plaintiff is now advised, the steps of the Jenkins process as practiced by the defendant which the plaintiff will rely upon at the trial to establish infringement by the defendant of the process claims 1, 2 and 3 of Patent 1,281,884, consist in passing charging oil through a reflux tower where the liquid comes in contact with the vapors from the cracking still and which preheated charging oil and reflux condensate passes out of the bottom of the reflux tower to a cracking still having a horizontal drum, and in which still a circulating ring of oil is maintained, by providing at each end of the horizontal drum vertical passageways communicating with front and rear cross drums. These cross drums have interposed there between inclined heating tubes completing the run and through which the oil passes to be heated to a cracking temperature.

In this passageway leading to the rear drum a propeller is provided for creating a circulating of the unvaporized oil from the horizontal drum together with the preheated charging oil and reflux condensate through the system. From the lower part of the front cross drum liquid carbon containing oil is constantly withdrawn from the ring of circulating oil, while the fresh charging oil is admitted to the reflux tower continuously in a sufficient quantity to maintain substantially constant the volume of oil in the still.

The oil in the still is maintained at a cracking temperature and under a superatmospheric pressure whereby conversion of heavy into lighter oils occurs. Vapors are discharged from a vapor space in the horizontal drum of the reflux tower where the insufficiently cracked vapors are aided in their condensation by the cooling action of the charging oil. From the reflux tower the uncondensed vapors

(Continued on Page 143)

Panhandle Output Shows Big Increase

Hutchinson County Completions Mainly Responsible. Increasing Number of Wells Shut Down for Storage

By C. D. Lockwood
Staff Correspondent, Texas Panhandle

One of the largest weekly increases in the history of the Texas Panhandle Field was recorded last week when the daily average production of the Amarillo district jumped 10,870 bbls. to a new high total of 116,690 bbls. from 352 producing wells. That is a daily average of 331 bbls. per well as compared with 318 bbls. last week and 328 bbls. a month ago. Hutchinson County alone gained 10,590 bbls. or practically all of the Panhandle increase. The Marland Oil Co. was responsible for a large part of the added output, having completed five new wells which raised its daily production about 9,850 bbls.

This big production gain is recorded in spite of the fact that an increasingly large number of wells are being shut down for storage and pipeline connections and others are being allowed to produce naturally without agitation. The Dixon Creek Oil Co.'s output dropped from 12,000 bbls. to 10,125 bbls. for the week because none of the wells was agitated and new producers are shut down on top of the sand. The Canyon Oil & Gas Co. also shut in its No. 1 Whittenburg because of lack of pipeline facilities.

Panhandle oil men are confident that the pipeline being built by the Prairie Pipe Line Co. will be looped immediately, thus providing an adequate outlet for the vast amount of stored oil in the field. They are also confident that next spring will see Mid-Continent posted prices being paid for Panhandle crude. There were some rumors during the past week of small quantities of Panhandle crude being sold below the market price but no definite and accurate information could be obtained regarding any such transactions.

The Marland Oil Co.'s No. 2 Perkins-Dial, in Section 1, H. & O. B. Survey, Hutchinson County, was shot with 20 quarts at 2,882-96 feet and made 700 bbls.

Hutchinson County Completions

Amerada Petroleum Corp.'s No. 4 Whittenburg-B, Section 89, Block Z, was shot with 50 quarts at 2,970-3,030 feet and made 300 bbls. initially. American Refining Co.'s No. 2 J. A Whittenburg, Section 2, Block B-4, was good for 100 bbls. after a second shot of 180 quarts at 2,780-2,822 feet. Continental Oil Co.'s No. 1 G. A. Whittenburg, was shot with 130 quarts at 2,721-76 feet and had 600 feet of oil in the hole afterward. Delmar Oil Co.'s No. 1 Johnson, Section 20, Block Y, swabbed 100 bbls. daily at 2,912-75 feet.

Dixon Creek Oil Co.'s No. 7 Smith, in Section 11, Block Y, was spraying 200 bbls. daily but had to be shut down for pipeline, total depth is 2,815 feet.

Dunnigan and others' No. 2 J. A. Whittenburg, in Section 13, Block Y, swabbed 25 bbls. at 2,945-3,010 feet. Echo Oil Co.'s No. 3 Smith, Section 11, Block Y, was shut down for pipeline at 2,760 feet. It was swabbing and spraying 50 bbls. J. K. Hughes Development Co.'s No. 4 Kingsland-A made 10 bbls. at 2,915-67 feet. Marland Oil Co.'s No. 7 Perkins-Dial was shot with 60 quarts at 2,902-17 feet and made 600 bbls. afterward. This well is in Section 1, Block XO2. Same company's No. 1 J. F. Weatherly-B, in Section 19, Block Y, was shot with 100 quarts at 3,005-39 feet, total depth 3,044 feet, and made 300 bbls. No. 2 J. F. Weatherly-B was shot with 80 quarts at 3,000-40 feet, total depth 3,050 feet, and made 100 bbls. No. 1 J. A. Whittenburg, in Section 65, Block 46, made 75 bbls. after a 60-quart shot at 2,800-24 feet; No. 2 made 90 bbls. after an 80-quart shot at 2,860-90 feet, total depth 2,895 feet; No. 2 J. A. Whittenburg-A in the Mary Whitley Survey, made 150 bbls. following a shot of 80 quarts at 2,914-43 feet, total depth 2,948 feet; No. 4 Whittenburg-A flowed 150 bbls. at 2,-986-94 feet; No. 6 Whittenburg-A flowed 2,400 bbls. after a 70-quart shot at 2,-923-75 feet.

Phillips Petroleum Co.'s No. 1 Johnson-Gordon, in Section 21, Block Y, flowed 1,200 bbls. at 2,920-70 feet. Phillips Petroleum Co. and Coble Oil Co.'s No. 15 J. A. Whittenburg, in Section 13, Block Y, made 1,000 bbls. after a 100-quart shot at 2,920-79 feet. Phillips Petroleum Co. and Gibson Oil Corp.'s No. 7 J. A. Whittenburg was flowing 50 bbls. at 2,-687-2,726 feet and was cleaning out to shoot.

Prairie Oil & Gas Co. and others' No. 11 Johnson-A, in Section 20, Block Y, was shot with 140 quarts at 2,978-3,065 feet and was making 125 bbls. daily; No. 3 M. Weatherly, in Section 23, Block Y, was flowing 60 bbls. daily at 2,975-3,038 feet.

Ryan Petroleum Co.'s No. 3 Johnson, in Tract 9, Mary Whitley Survey, flowed 300 bbls. at 2,979-81 feet. Skelly Oil Co.'s No. 3 Johnson, in Section 20, Block Y, was flowing 100 bbls. hourly at 2,926-50 feet. Wentz Oil Corp.'s No. 1 P. E. Reimer, in Section 2-A Block M-26, was a gasser good for 6,000,000 feet of gas at 2,705 feet, total depth, 2,986 feet. Westex Oil Co.'s No. 7 J. A. Whittenburg, in Section 13, Block Y, flowed 600 bbls. at 2,920-70 feet.

Gray County

Wilcox-Pampa Oil & Gas Co.'s No. 4 Worley & Reynolds swabbed 337 bbls. in 24 hours at total depth of 2,877 feet and was preparing to deepen 5 feet.

Wheeler County

Scott & Barner's No. 1 J. H. Jackson, Section 11, Block 27, was making 20,-000,000 feet of gas at 2,150 feet. Upham Gas Co.'s No. 1 Newton, Section 92, Block 17, was completed for 8,000,000 feet of gas at 1,980 feet.

PANHANDLE WILDCATS

Carson County

Empire Gas & Fuel Co.'s No. 1 Burnett estate, Section 127, Block 5, drilling at 2,110 feet. Gibson Oil Corp.'s No. 1, Section 1, Block 7, temporarily abandoned at 1,015 feet. Humble Oil & Refining Co.'s No. 1 Burnett-A, Section 12, Block 4, rigged up and shut down. Prairie Oil & Gas Co.'s No. 1 Deahl, Section 5, Block 5, shut down at 1,500 feet. Roxana Petroleum Corp.'s No. 1 Bryan, Section 92, Block 4, drilling at 2,825 feet, 500,000 feet of gas at 2,790 feet, top of lime at 2,305 feet. White Deer Oil Co.'s No. 1 Juden & Brown, Section 14, Block 4, drilling by tools at 2,860 feet.

Childress County

Gibson Oil Corp. and others' No. 1 Smith, cleaning out at 1,600 feet to drill deeper, total depth 2,504 feet.

Collingsworth County

Allmen and others' No. 1 McDowell, location. Gibson Oil Corp.'s No. 1 Williams and others, Section 5, Block 15, H. & G. N. Survey, shut down for pipe at 965 feet. Martin and others' No. 1 Mrs. T. V. Norwood, Section 30, Block 16, rig.

Dallam County

James and others' No. 1 fee, Section 9, Block 47½, drilling at 2,800 feet, set 6-inch at 2,755 feet.

Donley County

A. T. Drilling Co.'s No. 1 F. E. Harrington, Section 39, Block C3, drilling at 180 feet.

Gray County

Archer, Blake and others' No. 1 Turneau, Section 111, Block B-2, rig on ground. Bay Shore Oil Co.'s No. 1 C. W. Bradford, Section 148, Block B-2, drilling at 2,470 feet. 35,000,000 feet of gas, 2,460 feet. Blackwell & McGee's No. 1 Bowers, Section 92, Block B-2, rig up, waiting on gas. Canyon Oil Co.'s No. 1 Jackson estate, Section 60, Block B-2, rig. Constantin and others' No. 1 Dial, Block 25, shut down at 2,000 feet. Cranfill Brothers' No. 1 T. B. Noble, Section 10, Block A-6, drilling at 260 feet. Eagle Creek Oil Co.'s No. 1 Mrs. J. Hopkins, Section 66, Block B-2, spudded and shut down. H. B. Eller's No. 1 Crews, SE cor. Section 12, Block 25, rig on ground. Empire Gas & Fuel Co.'s No. 1 Benton, Section 64, Block 3, drilling at 2,260 feet. Empire Gas & Fuel Co.'s No. 1 B. Hughey, Section 129, Block 3, drilling at 1,500 feet; No. 1 J. J. Wall, Section 161, Block 3, drilling at 670 feet. Jack Greenwood and others' No. 1 H. B. Lovett, Section 26, Block B-2, spudded and shut down for water. Haughn and others' No. 1 A. J. Daur, Section 237, Block B-2, cellar. Nabob Oil Co.'s No. 1 J. S. Morse, Section 68, Block 25, shut down for pipe at 1,750 feet. Pampa Oil Co.'s No. 1 W. R. Campbell, Section 90, Block 3, rig. Shamrock Petroleum Co.'s No. 2 Merten, Section 82, Block 3, standardizing, 8¼-inch casing set at 2,438 feet. Roxana Petroleum Corp.'s No. 1 B. E. Finley, B. E. Chaney Survey, rig. Henry Riley's No. 1 J. M. White, new location, rig on ground. Weir, Kribs & Finklea's No. 1 B. F. Talley, Section 114, Block M-2, rig. Travis and others' No. 1 J. Back, Section 44, Block 25, rig blowa down. Young and others' No. 1-A Holmes, Section 106, Block 3, total depth 2,100 feet. Upham Gas Co.'s No. 1 W. E. Grammage, Section 4, Block 25.

Hansford County

F. W. Dillard and others' No. 1 F. A. Davis, Section 50, Block 2, spudding and shut down.

Hartley County

Crane Oil Co.'s No. 1 Coots, Section 52, Block XR, W. M. D. Lee Survey, location. Deep Rock Oil Co.'s No. 1 Lyman & Balfour, Section 9, Block 2, G. & M. Survey, drilling at 1,200 feet. Dorning and others' No. 1 A. C. Ashby, location. Eslick and others' No. 1 J. B. Irving, Section 13, Block 13, C. S. & S. Survey, drilling at 680 feet. W. W. Holmes' No. 1 G. B. Coots, Section 58, Block LR, Lee Survey, shut down at 980 feet. Humble Oil & Refining Co.'s No. 1 J. M. Shelton, Section 63, drilling at 785 feet. J. E. McKanna's No. 1 E. S. Collins, Section 3, Block L8, G. & M. Survey, rigging up; No. 1 W. H. Farwell and others, Section 10, Block 22, C. S. & S. Survey, rigging up; No. 1 J. M. Shelton estate, Lot 29, League 202, setting 20-inch at 585 feet. Kork Oil Co.'s (was Nutigate's) No. 1 J. M. Shelton estate, Section 1, Block B-8, spudding and shut down. Breck Walker's No. 1 Stone, Section 35, Block I-T-O, T. & H. O. Survey, location.

Hemphill County

Anrade and others' No. 1 Rumbolt, location. Dorning and others' No. 1 Alexander, Poitevent Survey, spudding and shut down. Hoover and others' No. 1 Schaller estate, Section 4, spudding and shut down; No. 1 fee, J. S. Hood Survey, run 15-inch at 225 feet.

DAILY AVERAGE PRODUCTION OF THE AMARILLO DISTRICT
Week Ending August 28, 1926

County—	Wells	Dly. Av.
Amerada Pet. Corp., J. A. Whittenberg	1	60
Amerada Pet. Corp., J. A. Whittenberg-B	4	540
Amerada Pet. Corp., G. A. Whittenberg	1	30
American Refining Co.	2	105
Apex Oil Co.	2	200
Badger Oil Co.	1	60

(Continued on Page 140)

STRENGTH IN KEROSENE PRICES INDICATES CRUDE WITHDRAWALS

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, 30 Church Street, New York

NEW YORK, Aug. 30.—Students of the oil markets view with considerable interest the strength in kerosene prices which has been the rule now for about a year. The significance of it is believed to lie in the effort of the oil industry to supply the enormous demand for gasoline without an excessive rise developing in the price of that product. Through improved refining methods, the oil business has increased the yield of gasoline, largely at the expense of other products, including notably kerosene, gas oil and fuel oil.

The overproduction in California left the oil industry with an unprecedented supply of fuel oil and other heavy products on its hands. These products went into competition with crude petroleum as a stock for the manufacture of gasoline. The demand for gasoline meanwhile advanced to a point where refiners were encouraged to use all possible means of recovering the maximum quantity from the raw material at hand.

California and Smackover crudes have contributed largely to the supply of gasoline. In addition to the crudes, the fuel oil residue from these crudes has been widely utilized. Without this, a much bigger demand for crude petroleum would certainly have developed before this, according to many authorities.

Oil marketers who have been watching recent developments in the automotive industry see a new era materializing, the era of a small, closed car, reasonable in price, which will have a new appeal to the motoring public, and will enlist many new recruits to the ranks of automobile owners. Hence, they believe there will be a gain in gasoline consumption in 1927 at least equal, in gallonage, to that of this year, and perhaps greater. Several new models have come on the market which through big sales have given a clue as to what to expect next year.

Gasoline Still Dominates

Many conservative automobile men several years ago predicted that the motor vehicle had reached the saturation point. If this had been the case sale of automobiles and of gasoline certainly would have started downward long since. Instead, automobile sales have advanced beyond the expectations of the makers themselves; and gasoline demand has increased with it.

In the face of this situation, the oil industry has supplied gasoline at a reasonable price, with no present indication of a shortage.

The advance in the price of kerosene, however, is a sign, the significance of which cannot be overestimated. It indicates, in the opinion of students of refining, that the oil industry is undergoing a certain strain, but that it simply is not coming out in the form of higher gasoline or crude oil prices, but in kerosene instead.

This situation can continue just so long as kerosene is readily available for cracking. The advance in price to within a couple of cents of the price of gasoline, however, is taken as reflecting an

(Continued on Page 140)

New Records in Montague and Brown

Jack County Wildcat Filled With Oil. Young County Semi-Wildcat Makes 200 Barrels in 12 Hours

By C. D. Lockwood
Staff Correspondent, North Texas Fields

FORT WORTH, Tex., Aug. 30.—While the Dixie Oil Co.'s No. 4 Ed S. Hughes, in Upton County, was blowing oil and water and b.s. all over west Texas at the rate of several hundred barrels an hour last week, and the Gulf Production Co.'s No. 3 J. T. McElroy and the Magnolia Petroleum Co.'s No. 1 O'Keefe, in Crane County, were drilling deeper into the pay and holding the attention of Texas oil men, Montague and Brown Counties established new production records, a Jack County wildcat filled up with oil and a Young County semi-wildcat near Graham, flowed 200 bbls. in 12 hours. The Cook Ranch Pool, in Shackelford County, was also extended another location to the east with a 500-bbl. producer and the Sunshine Hill area of Wichita County contributed a 625-bbl. flowing well.

Accurate reports on the Dixie gusher in Upton County were difficult to obtain early this week, but the latest word received from that district was to the effect that the flow consisted of 50 per cent water and 50 per cent b.s. and cut oil. That doesn't leave much pipeline crude to go into the tanks although the well was reported flowing at the rate of 4,800 bbls. daily. The Humble Oil & Refining Co.'s No. 1 Ricker & Dodson, south of the Dixie's Hughes tract, was drilling at 2,140 feet Monday with 600 feet of oil in the hole. This well was about 20 to 23 feet higher on the lime than Dixie's No. 2 and No. 4 but found practically nothing in the pay from which the Dixie's No. 2 Hughes has been making so much oil.

The Independent Oil & Gas Co.'s No. 6 Taylor topped the pay at 2,029 feet and was drilling at 2,145 feet. It swabbed 35 bbls. The same company's No. 2 Emma Wooley, south offset to Dixie's No. 2 Hughes, was drilling at 2,121 feet with a hole full of oil from pay topped at 2,034 feet and was due to reach the lower pay from which the Dixie's No. 4 Hughes is producing.

Southeast of this pool, on the east side of the Burleson district, the Roxana Petroleum Corp.'s No. 1 Bowen topped the second pay at 2,063 feet and was drilling at 2,090 feet with 200 feet of oil in the hole. It swabbed 110 bbls. from the upper pay at 1,982 feet. The Sun Oil Co.'s No. 3 Burleson flowed 90 bbls. at 2,070-2,117 feet and was being put on the pump.

Two rather sad stories were told in west Texas during the past week. J. S. Cosden's No. 1 W. E. Connell-B, in the C SW, Section 16, Block B-16, public school lands, Ector County, topped the lime at 3,385 feet and was shut down at 3,500 feet with no showing of oil or gas. The other was the Gulf Production Co.'s No. 1 Sanger, in the NE cor. NW of Section 14, Block 3, M. K. & T. Survey, about 3 miles north of the Burleson Pool. This well encountered a hole full of sulphur water at 3,085 feet.

Crane County Operations

The Gulf Production Co. was having some hard luck around its discovery producer on the McElroy block in Crane County also. No. 2 J. T. McElroy, a location west of the discovery, was fishing for three strings of tools at 2,165 feet. No. 3 J. T. McElroy, half a mile north of the discovery, in the SE cor. NE. Section 203, Block F, flowed 117 bbls. Saturday, 147 bbls. Sunday and 220 bbls. Monday morning while being deepened. It looks as though this well has reached a second pay, its present total depth being 2,816 feet, and the production having jumped 73 bbls. in the last day. No. 2 Crier-McElroy, diagonal southeast offset to No. 3 J. T. McElroy, has been shut down temporarily at 2,680 feet, with the 6-inch set at 2,670 feet, pending the erection of additional tankage. No. 1 Crier-McElroy, half a mile east of the discovery, was running 8-inch casing at 2,200 feet and No. 3, half a mile south of the discovery was drilling at 2,300 feet.

In Culberson County, the Deep Rock Oil Co.'s No. 1 Kloh & Rumsey has reached a depth of 3,504 feet with no showings of importance in the deeper horizons.

In Young County, Coones & Hotchkiss' No. 1 Morrison, about 1½ miles east of Graham, in the NE cor E. Sherrill Survey A-271, flowed 200 bbls. in 12 hours at 2,263-65 feet. There was about 3,000,000 feet of gas with the oil, also. This well was drilled in with 400 feet of open hole which has caved considerably and that cut down production during the next 24 hours. It is considered about a 400-bbl. well as it stands. It is about half a mile northeast of the old deep hole drilled to 4,375 feet by the same interests. The 2,265-foot production is in the Strawn series.

Jack County Well

Northeast of this discovery, about a mile east of the Young County line in Jack County, and about 3 miles southwest of Bryson, the Security Drilling Co.'s No. 1 First State Bank of Bryson, in the SW cor. of Section 2, Indianola R. R. Survey, found oil sand at 2,341-63 feet, hard sand at 2,363-64 feet and the best pay at 2,364-66 feet. The hole filled up with oil over night and cleaned itself.

In the same county, the Buttram Petroleum Co.'s No. 1 Cullers, SE cor. of 50-acre tract in the Samuel Chairs land, flowed 112 bbls. the first 24 hours at 2,032-39 feet. This is the best Strawn well in this district.

The Cook Ranch Pool extension referred to is the Roeser & Pendleton's No. 2 Cook B-60, which made 500 bbls. at 1,253-71 feet. No. 1 Cook B-61 was also a 300-bbl. well at 1,263-80 feet. Both wells are on the extreme eastern line of production.

In Archer County, the American Refining Co.'s No. 3 Turbeville, in Section 150 of the Robert Carson Survey, swabbed 200 bbls. in the first 12 hours at 1,494-97 feet. The Texhoma Oil & Refining Co.'s No. 1 Kemp & Kempner, in the NE cor. SW, Section 63, Kemp's Wichita Valley Farm Lands, was flowing 211 bbls. at 1,797-98 feet. The Empire Gas & Fuel Co. and Moran's No. 1 Parkey, in the center of the west half of Section 2, S. P. R. R. Survey, flowed 155 bbls. the first 24 hours at 1,576-77 feet.

In Brown County, the Humble Oil & Refining Co.'s No. 7 Kilgore C, on the south line of Humble's 50-acre tract in Section 783, Thomas Benson Survey, flowed 300 bbls. from sand at 1,159-82 feet.

NORTH CENTRAL TEXAS ESTIMATED PRODUCTION
Week Ending August 28, 1926

Ranger District—	This Week	Last Week
Brown County	12,353	11,600
Callahan County	4,693	4,718
Coleman County	1,875	1,915
Comanche County	1,865	1,880
Palo Pinto County	449	446
Ranger County	5,713	5,840
Shackelford County	10,477	10,480
Stephens County	11,352	11,500
Total Ranger District	48,777	48,379
Wichita Falls District—		
Electra	15,988	15,964
Burkburnett	12,111	12,106
Iowa Park	4,288	4,200
Archer County	29,899	29,546
Clay County	553	577
Wilbarger County	14,549	14,468
Montague County	6,749	6,060
Young County	8,285	8,307
Jack County	215	225
Throckmorton County	1,749	2,240
Baylor County	165	161
Cooke County	185	266
Total Wichita Falls Dist.	94,736	94,120
West Texas District—		
Big Lake Field	28,378	28,809
Crane County	750	728
Crockett County	1,072	1,156
Howard County	250	298
Mitchell County	3,621	3,665
Scurry County	51	46
Upton County	4,320	3,863
Total West Texas Dist.	38,352	38,503
Grand total	181,865	181,002
Increase	863	

North Central Texas Completions

Archer County

American Refining Co.'s No. 1-A Turbeville had dry sand at 1,533-34 feet and was plugged as dry at 1,605 feet. Bridwell & Heydrick's No. 4 Wilson was a duster at 1,710 feet, havng salt water sand at 1,644-47 feet. Humble Oil & Refining Co.'s No. 1 Moss was another failure at 1,802 feet. Kentucky Oil Co. and Roxana Petroleum Corp.'s No. 1 Wilson was dry and abandoned at 1,459 feet. McCarty Oil Co.'s No. 2 Duke Parrish made 40 bbls. at 1,582-97 feet. Park Priddy and others' No. 1 Carter was a failure at 1,585 feet. Simms Oil Co.'s No. 5 Turbeville-A flowed 800 bbls. at 1,518-38 feet. Same company and Consolidated Oil Co.'s No. 1 Turbeville, Block 146, made 35 bbls. at 1,501-06 feet.

The Texas Company's No. 1 Jentsch was dry and abandoned at 1,751 feet; No. 3 Turbeville C swabbed 165 bbls. in 13 hours at 1,507-27 feet. Texhoma Oil & Refining Co.'s No. 15 Hamilton pumped 100 bbls. at 1,800-06 feet. Texhoma Oil & Refining Co. and Maer's No. 1 Kemp & Kempner made 211 bbls. at 1,797-98 feet. Tidal Oil Co.'s No. 1 Turbeville was dry and abandoned at 1,569 feet.

Cook & Reeder's No. 3 Kunkel was a duster and plugged at 1,203 feet. Gates and others' No. 7 Thomas made 60 bbls. at 1,165-77 feet; No. 8 Thomas, 20 bbls. at 1,148-67 feet. Grebin and others' No. 1 Spradlin had dry sand at 1,444-60 feet and plugged at 1,503 feet. Ilseng Production Co. abandoned the location for No. 3 Prideaux. Kell & Kruger's No. 4 Prideaux pumped 100 bbls. in 6 hours and 360 bbls. in 24 hours at 693-709 feet. Magnolia Petroleum Co.'s No. 1 Richardson was dry and abandoned at 2,220 feet. Marland Oil Co. abandoned the location for No. 6 Thomas. Marland Oil Co. and Kentucky Oil Co.'s No. 1 White pumped 13 bbls. of oil and 16 bbls. of water at 1,172-76 feet. Philmack Oil Co.'s No. 1 Wilson was dry and abandoned at 1,785 feet. Plains Production Co.'s No. 3 Prideaux made 12 bbls. at 676-89 feet, total depth 869 feet. Texhoma Oil & Refining Co., Gilliland and Fisher's No. 1 Rogers was dry and plugged at 1,385 feet.

American Refining Co.'s No. 2 Turbevill A pumped 240 bbls. at 1,500-05 feet. Bridwell & Heydrick's No. 3 J. E. Parrish A made 15 bbls. at 1,587-90 feet. Caldwell and Consolidated Oil Co.'s No. 7 Hutcheson was dry and abandoned at 1,411 feet. J. R. Elliott's No. 3 L. F. Wilson was also a duster and plugged at 1,418 feet. Harris & Johnson and others' No. 1 Turbeville was abandoned as dry at 1,620 feet. W. H. Kerbow and others' No. 1 Dale Brothers was dry at 1,735 feet. Magnolia Petroleum Co.'s No. 10 W. F. Parrish-B made 20 bbls. at 1,549-53 feet. Shappell Oil Co.'s No. 4 L. F. Wilson-C was a failure at 1,632 feet. F. S. Whitman and others' No. 2 H. Ford was dry and abandoned at 581 feet. Gulf Production Co.'s No. 12 M.

(Continued on Page 139)

GASOLINE ONE AMERICAN PRODUCT CHEAPER AT HOME THAN ABROAD

By Judson C. Welliver*
Director of Public Relations, American Petroleum Institute

No other industry bears a burden of taxation which, in proportion to its investment, even approaches that of the petroleum business.

In the face of all this, complaints are occasionally heard regarding the price of gasoline. But what are the facts? Briefly, they are that the price of gasoline has advanced much less, during the era of universal price increases since the beginning of the war, than any other commodity of wide use and importance. The Department of Commerce recently published charts which give official proof of this statement. Taking 1913 as the last year of normal prewar prices, it found that the average of prices for all commodities has advanced since 1913 about 55 per cent, while gasoline prices have advanced about 22 per cent. In a word, its place in the general commodity price structure fixes gasoline today as the cheapest of all commodities of general use.

Cheapest of All Staples

Take another view of this price question. Statistics of prices in many countries prove, as do the observations of travelers, that nearly all prices are lower in other countries than in the United States. The American dollar will buy more house rent, more food, more clothing, more of almost every necessity of life, practically everywhere in Europe, than it will in the United States. There is just one striking exception to this rule: the American dollar will buy more gasoline in the United States than in any European country, with the possible exception of Rumania, which has a large production and a very small consumption of gasoline. In short, gasoline is not only very much cheaper here at home than other commodities, but it is very much cheaper here than in other gasoline-using countries. This is true because, first, of the splendid efficiency and organization of the industry in this country; and, second, because free and active competition obtains here, giving full play to the law of supply and demand.

To produce petroleum for the ever increasing demand, an almost unbelievable investment has been necessary. In the last 10 years more than a quarter of a million wells have been drilled for oil, and nearly a third of these have produced absolutely none. Moreover, wells must be drilled deeper and deeper all the time. The Drake well found oil at 69 feet; nowadays wells a mile deep are not infrequent, and some have gone down 1½ miles. The average cost of all the wells drilled in California last year has been stated as $87,000; and of all wells in other oil areas, the average cost is fixed at $24,000. It has been calculated that since the Drake well was drilled in 1859 over $12,000,000,000 has been invested in developing oil fields.

*From an address before Chautauqua Assembly, Sulphur Springs, Tex.

The refiner with a gas oil cracking process in the long run will make no profit from the sale of his heavy fuel oils or residuums

The refiner with the Dubbs Cracking Process can crack gas oil But he alone can crack his fuel oils and add to his profit by selling his gas oil to his less fortunate neighbor who must have it, if he is saddled with some other process

With the Dubbs Process there are no products to sell at cost-or-less

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Seminole May Cover Greater Area

Good Flow in Gypsy Co. Well Stimulates Interest. Most Important Since Independent-Garland Was Drilled in

By J. L. Dwyer
Staff Correspondent. Oklahoma Fields

The Seminole Pool continues to be the attraction in the Oklahoma fields. The discovery of the Wilcox sand in the Gypsy Oil Co.'s No. 1 Carter, SE cor. NE NW Section 24-9-6, stimulated the interest in this field. The new Gypsy well found the Wilcox sand 4,170 feet and penetrated it 4 feet to a total depth of 4,174 feet. The well started flowing at the rate of 100 bbls. an hour.

The good flow of the well occasioned surprise among many of the geologists who had calculated the formations to be running 65 feet lower than the Independent-Garland well. It is five-eighths of a mile north of the discovery well of this part of the country (Indian Territory Illuminating Oil Co.'s No. 1 Dyer, NW cor. SE, Section 24-9-6), and its discovery disturbs the theory which has been extant for some time that the Wilcox would not produce in this region owing to geological conditions. The "fault" which is supposed to run between the Eye Tee Eye Pool and the Independent-Garland well was assumed to eliminate the production of the Wilcox sand on the north side and the Gypsy well upsets all previous estimates. The finding of a good well in this section of the Seminole Pool is the most important occurrence since the Independent-Garland well was drilled in. A study of the horizon and formations leads to the belief that the pool will cover a much greater area than was at first supposed.

Following the performance other Wilcox sand pools in this section of Oklahoma, it was thought the Seminole Wilcox oil would not cover an area greater than 400 or at the most 500 acres. The thickening of formations, and the huge flow of the Gypsy well, indicates that the pool will cover an area of at least 1,000 acres and probably much more.

Compared With Cromwell

Taking the pools of the "South Country" as this region is known, one finds that the great Cromwell Pool attained the highest peak of any operation, and Wewoka Deep Sand was next in importance. It has been argued by many that the development at Seminole will not surpass the peak of Cromwell but it must be recalled that the Independent-Garland well has far exceeded the peak production of the Hoffer well at Cromwell, and it has produced very consistently. The healthy flow from a good body of sand certainly indicates a wide area for Seminole, and the finding of Wilcox sand production in the Gypsy well will cause a revision upward of previous estimates of peak production.

Considering the intervening territory between the Wilcox sand wells now producing, (Independent-Garland and Gypsy) the numerous wells now under way, and the good production of both wells, it would not be surprising to witness a production of 100,000 bbls. a day for this section. There are 118 active operations in the four townships 10-6, 9-6, 10-5 and 9-5.

Southwest of Seminole County in Pottawatomie County there are two interesting wells, the Independent Oil & Gas Co. and the Darby Petroleum Co. well in Section 15-7-4, and the Wrightsman Petroleum Co. well in Section 20-6-4. The Independent-Darby well is drilling in lime at 3,727 feet and producing 130 bbls. daily. The Wrightsman well has 700 feet of oil in the hole from a formation thought to be the Hunton lime at 3,520-30 feet. The progress of these wells will be closely observed.

Interesting Osage Completion

An interesting completion in the Osage nation is the Phillips Petroleum Co.'s No. 3, SW cor. SE SW, Section 21-26-6 which made 550 bbls. after a shot of 20 quarts in sand 2,907-58 feet. This well offsets an unleased tract which will be offered at the coming Osage sale September 30.

In the Earlsboro section of Seminole County, the Barnsdall Oil Co.'s No. 1, C NE NE SW, Section 10-9-5, swabbed 40 bbls. from sand found at 4,368-78 feet. The pay was found in the last foot drilled. A peculiarity of this well was that the Viola lime thickened up sufficiently to crowd out the Hunton lime. The pay sand is thought to be Wilcox.

A gas well in Okfuskee County several miles from production is the wildcat well of the Lennox Oil Co. and others' No. 1 Henderson, NW cor. NE, Section 3-11-9. This well is making 13,000,000 feet of gas from the Hunton lime touched at 3,744 feet. It was the intention of the owners to drill to the Wilcox sand, but the gas may cause the completion of the well.

Two failures in the Wilcox sand must be recorded with the production. The Papoose Oil Co.'s No. 10, NW cor. NE SE, Section 4-9-9, found this horizon barren from 4,120-30 feet with a hole full of water. This is in the old Papoose Pool.

In the Yeager Pool, the Dixie Oil Co.'s No. 1-C Diamond, SE cor. NE, Section 18 8-10, also found the Wilcox unproductive from 4,137-49 feet where the fatal salt water was tapped.

South of Cushing in Payne County, the Shaffer Oil Co.'s No. 1 Cook, SE cor. SW, Section 31-17-5, found 13,000,000 feet of gas in sand 3,960-66 feet.

In the Skelly-Ford area of Lincoln County, the Phillips Petroleum Co.'s No. 1 Vance, NW cor. SE, Section 8-15-6 made 217 bbls. from sand 4,040-42 feet.

Another interesting well of Payne County is the Mulberry Oil Co.'s No. 4 Sharrum, NW cor. NE NW, Section 5-17-4. This well is making 20 bbls. an hour, and 6 bbls. an hour of this is coming from upper sand, 4,075-77 feet, and the rest is coming from sand 4,158-59 feet.

A list of production by wells and companies in some of the more prominent pools in Oklahoma follows. The list gives the daily average production for the week ending August 26:

Wewoka Deep Sand

Company—	Wells	Prod.
Amerada Petroleum Co.	12	7,217
Dixie Oil Co.	7	5,761
Homaokla Oil Co.	3	636
Independent-Atlantic	3	1,536
Magnolia Petroleum Co.	13	7,041
McCulloch Oil Co. et al	1	489
Prairie Oil & Gas Co.	1	839
Prairie Oil & Gas and Y Oil Co.	3	2,961
W. R. Ramsey	3	2,646
Total	45	29,126

Seminole Pool

Amerada Petroleum Co.	2	289
Barnsdall Oil Co.	2	1,474
Carter Oil Co.	2	2,947
Independent-Garland	1	5,515
I. T. I. Oil Co.	5	459
Mid-Continent Petroleum Co.	2	2,692
Prairie Oil & Gas Co.	1	611
F. J. Searight et al	2	185
Tidal Oil Co.	3	928
Superior Oil Co. et al	1	73
Total	21	14,517

Burbank Field

Carter Oil Co.	283	5,119
Comar Oil Co.	7	104
Mid-Continent Petroleum Co.	106	1,020
Devonian Oil Co.	16	103
Gypsy Oil Co.	193	2,416
Kewanee Oil Co.	27	1,250
Laurel Oil & Gas Co.	16	157
Lewis Oil Co.	23	1,556
Lorraine Oil Co.	15	84
Midland Oil Co.	37	459
Mid-Kansas Oil & Gas Co.	46	1,634
Peters-Oliphant	4	583
Phillips Petroleum Co.	231	19,581
Delmar Oil Co.	16	656
Phillips-Skelly	180	2,012
Prairie Oil & Gas Co.	127	2,624
Producers & Refiners Corp.	29	218
Roxana Petroleum Corp.	54	495
Seamens et al	1	6
Simmons-Moore	29	184
Sinclair Oil & Gas Co.	144	1,180
Skelly Oil Co.	33	1,219
Tidal-Osage Oil Co.	42	458
The Texas Company	16	180
Twin State Oil Co.	24	281

South Burbank

Phillips Petroleum Co.	3	377
Prairie Oil & Gas Co.	9	1,069
Sinclair Oil & Gas Co.	1	8
Midland Oil Co.	2	38
Total	1,699	42,743

Kay County Extension

George S. Bole	3	163
Carter Oil Co.	11	860
Comar Oil Co.	17	964
Mid-Continent Petroleum Co.	16	675
Gypsy Oil Co.	18	247
Laurel Oil & Gas Co.	5	234
Mid-Kansas Oil & Gas Co.	10	771
Phillips Petroleum Co.	32	1,988
Prairie Oil & Gas Co.	4	87
Pure Oil Co.	4	261
Roxana Petroleum Corp.	8	253
Dye-Tomlinson	8	206
Skelly-Phillips	20	262
Sinclair Oil & Gas Co.	5	214
The Texas Company	16	181
Twin State Oil Co.	15	600
Total	192	7,846
Grand total	1,891	50,589

North Braman

Comar Oil Co.	42	8,890
Gypsy Oil Co.	1	7
Mid-Continent Petroleum Co.	2	1,668
The Texas Company	2	283
White Eagle Oil Co.	1	10
Total	48	10,858

South Braman

Braman Oil Co.	3	227
Comar Oil Co.	25	8,453
C. B. Davis	1	0
Shawver et al	1	0
Total	30	8,680

Tonkawa Deep Sand

Amerada Petroleum Corp.	7	1,645
Blackwell Oil & Gas Co.	4	187
Comar Oil Co.	45	12,852
Marland Oil Co.-Mid-Continent Petroleum Co.	6	892
Gypsy Oil Co.	18	2,921
McMan Oil Co.	1	5
Pennok Oil Co.	7	115
Phillips Petroleum Co.	1	36
T. B. Slick	6	1,400
The Texas Company	12	1,424
Wentz Oil Corp.	15	4,923
Total	122	26,400

Osage County—New Work

Skelly Oil Co.'s No. 7, NW cor. NW SW, Section 26-27n-5e, is a rig. Phillips Petroleum Co.'s No. 11, SW cor. NE SE, and No. 14, NE cor. NW SE, are both rigs in Section 7-27n-6e. Oliphant and others' No. 5, NE cor. SW NW, Section 17-27-6e, is drilling at 440 feet. Pure Oil Co.'s No. 89, SW cor. NW NE, Section 11-27-10e, drilling at 530 feet. Marland Oil Co.'s No. 1, C NE NE NW, Section 3-26n-6e, is a rig. Phillips Petroleum Co.'s No. 1, SW cor. SW, Section 21-26n-6e, is drilling at 45 feet. Prairie Oil & Gas Co.'s No. 13, NE cor. NE SE, Section 21-25n-6e, drilling at 100 feet. Lewis Oil Co.'s No. 11, SW cor. SW NW, Section 29-25-8e, is a rig. Marland Oil Co.'s No. 1, SW cor. SW SE, Section 21-24n-8e, drilling at 200 feet. Tidal Oil Co.'s No. 2, SE cor. NE SE SE, Section 1-23-8e, is drilling at 400 feet; No. 3, SW cor. SE SE, in same section, is drilling at 100 feet. Skelly Oil Co.'s No. 1, SE cor. SE SW, Section 35-22-8e, is drilling at 350 feet; No. 1, SE cor. SE SE, Section 33-22n-9e, is drilling at 600 feet. In Section 4-22n-

FIRST REPORTS OF OPERATIONS IN NORTH TEXAS AND THE PANHANDLE

Ochiltree County

Hamilton and others' No. 1 R. E. Wamble, 330 feet north and west SE cor. SW, Section 144, Block 43, H. & T. C. Survey.

Hemphill County

Dorning and others' No. 1 R. T. Alexander, 330 feet south and west NE cor. J. Poitevent Survey, No. 1.

Roberts County

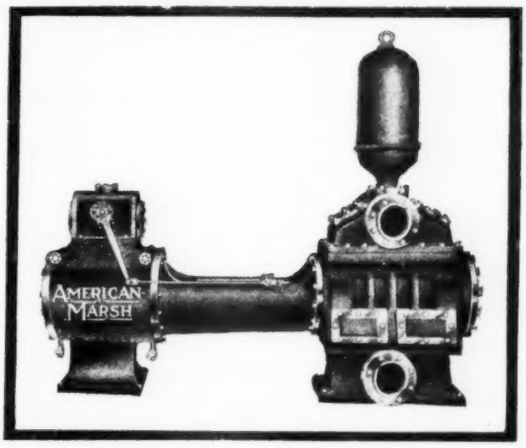
Trammel and others' No. 1 Hammond Cattle Co., 1,595 feet north and 13,400 feet east SW cor. Clay County school land and located on Hammond Cattle Co.'s 3,737-acre tract.

Hutchinson County

Barnsdall Oil Co.'s No. 2 J. E. Pritchard-A, C NW 20 acres, NW 80 acres, Section 3, Block B-4, D. & S. E. Survey. Golden Eagle Oil Co.'s No. 1 J. Q. Bost, 350 feet north and west SE cor. Section 6, Block B-2, T. T. R. R. Survey. Dan A. Japhet's No. 5 H. E. Smith and others, 370 feet south and 330 feet east NW cor. Section 1, Block Y; No. 6, 990 feet south and 330 feet east NW cor. SE, Section 11, Block Y. Kistler & Lenix's No. 1 J. A. Whittenburg, 330 feet south and west NE cor. north 20 acres, SW 40 acres, SW, Section 13, Block Y; No. 2, 330 feet south and east NW cor. north 20 acres, SW 40 acres SW, Section 13, Block Y. Manhattan Oil Co.'s No. 1 Johnson Brothers, 330 feet south and west NE cor. S half SE, Section 22, Block Y. Marland Oil Co.'s No. 1 Smith and others-Wright, 330 feet south and east NW cor. E half NW, Section 15, Block Y. Midwest Exploration Co.'s No. 2 H. E. Smith and others-Dick, C SW 10 acres, SW 40 acres NE, Section 5, Block Y. J. R. Phillips and others' No. 4 H. E. Smith and others, C NE 10 acres, SE 40 acres NE, Section 12, Block Y. Phillips Petroleum Co.'s No. 5 Johnson Brothers-Gordon, 330 feet north and 900 feet west SE cor. N half NE, Section 12, Block Y; No. 3 J. A. Whittenberg-Burg, 330 feet south and 248 feet west NE cor. east 40 acres, west 360 acres M. Whitley Survey, No. 1; No. 4, 2,330 feet north and 248 feet west SE cor. east 40 acres, west 360 acres, M. Whitley Survey, No. 1; No. 5, 1,679 feet north and 248 feet west SE cor. east 40 acres, west 360 acres, M. Whitley Survey, No. 1; No. 1 J. A. Whittenberg-Byron, center Lot 13, Caperton-Williams Subdivision, Mary Whitley Survey, No. 1; No. 1 J. A. Whittenberg-Elra, 1,004 feet south and 330 feet west NE cor. Mrs. E. T. Tumlinson Survey, No. 3; No. 5, 990 feet north and 2,014 feet west SE cor. Mrs. E. T. Tumlinson Survey, No. 3; No. 6, 1,540 feet south and 330 feet west NE cor. Mrs. E. T. Tumlinson Survey, No. 3; No. 7, 330 feet north and west SE cor. Mrs. E. T. Tumlinson Survey, No. 3; No. 8, 979 feet north and 330 feet west SE cor. Mrs. E. T. Tumlinson Survey, No. 3; No. 8, J. A. Whittenberg-Pattsburg, 1,550 feet north and 330 feet east SW cor. Section 67, Block 46, H. & T. C. Survey. Phillips Petroleum Co. and Pulaski Oil Co.'s No. 5 H. E. Smith and others, 990 feet south and 330 feet west NE cor. W half NE, Section 12, Block Y; No. 6, 1,650 feet south and 330 feet west NE cor. W half NE, Section 12, Block Y. Pole Cat Oil Co.'s No. 1 W. B. Haile, 330 feet east of east line, Section 17, Block L. E. L. & R. R. Survey, and 990 feet north of north line, Section 21, Block M-21, T. C. R. R. Survey, located in Section 24, Block M-21, T. C. R. R. Survey. Prairie Oil & Gas Co. and others' No. 23 Johnson Brothers-A, 330 feet south and 990 feet west NE cor. SE, Section 20, Block Y; No. 24, 330 feet south and 990 feet east NW cor. SE, Section 20, Block Y; No. 25,

(Continued on Page 113)

Dependable Performance



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11e, the Kewanee Oil & Gas Co.'s No. 5, NW cor. SW NE, is drilling at 100 feet. Tidal-Osage Oil Co.'s No. 3, SW cor. SE NW, Section 22-21n-12e, is drilling at 710 feet. Devonian Oil Co.'s No. 1, NE cor. NE SW, Section 35-20n-11e, drilling at 100 feet.

Osage County—Completions

I. D. Simons' No. 2, NW cor. NW NW, Section 31-29n-12e, shot with 60 quarts from Peru sand at 990-1,022 feet, made 12 bbls. Phillips Petroleum Co.'s No. 8, NE cor. SE SW, Section 1-27n-5e, made 2,760 bbls. naturally from sand at 2,930-91 feet; No. 13, NW cor. NW SE, Section 7-27-6e, had sand at 2,952-3,009 feet, made 1,450 bbls. naturally. C. O. Ross' No. 2, SE cor. SE SW, Section 10-27n-11e, made 5 bbls. after a 120-quart shot from Peru sand at 1,049-71 feet. C. D. Dyson's No. 1, NE cor. SE NW, Section 21-27-12e, shot with 100 quarts from sand at 1,778-1,805 feet, made 10 bbls. Barnsdall Oil Co.'s No. 1, NE cor. SW, Section 6-26n-5e, is dry and plugged at 3,020 feet. That company also has a dry hole in No. 2, NW cor. NE SE, Section 32-26n-11e, at a depth of 1,702 feet. Marland Oil Co.'s No. 1, C NE NW, Section 11-25-3e, is dry and plugged at 4,070 feet. Prairie Oil & Gas Co.'s No. 9, C NW SE SE, Section 21-25n-6e, made 150 bbls. after a 17-quart shot from sand at 2,693-2,705 feet. A. G. Oliphant has a dry hole in the Layton sand at 1,131 feet in No. 3, NE cor. SW SE, Section 19-25n-8e. Peters Petroleum Co.'s No. 6, SE cor. NE SW, Section 28-24n-10e, shot with 60 quarts from Cleveland sand at 1,348-67 feet, made 10 bbls. Beacon Oil Co.'s No. 25, SE cor. SE NW, Section 21-23n-8e, is dry at 3,501 feet. American Oil & Development Co.'s No. 22, NW cor. SW NE, Section 13-23n-10e, shot with 180 quarts from Bartlesville sand at 1,778-1,833 feet, made 15 bbls. Skelly Oil Co.'s No. 4, SW cor. SW SE, Section 35-22n-8e, made 30 bbls. after a 15-quart shot from sand at 2,383-98 feet. Tidal-Osage Oil Co.'s No. 19, SW cor. NE SW, Section 34-22n-10e, shot with 300 quarts from sand at 1,884-1,923 feet, made 15 bbls. W. S. Mitchell's No. 4, NW cor. SE NW, Section 7-21n-9e, made 10 bbls. after a 40-quart shot from a stray sand at 495-506 feet. Oklahoma Natural Gas Co.'s No. 714, SW cor. SW SW, Section 17-21n-11e, shut in for 9,000,000 feet of gas at 1,865 feet. Tidal-Osage Oil Co.'s No. 8, NE cor. SW SW, made 30 bbls. after shot with 80 quarts from sand at 1,298-1,344 feet. Barnsdall Oil Corp.'s No. 18, NE cor. SE SE, Section 30-21n-12e, made 60 bbls. from the Wilcox sand at 1,873-1,940 feet. Pioneer Oil Co.'s No. 8, CEL NE SW NW, Section 5-20n-11e, shot with 20 quarts from sand at 1,744-55 feet, made 20 bbls. Sand Springs Home's No. 3, CWL SW SW, Section 11-20n-11e, shot with 40 quarts from the Wilcox sand at 2,395-2,406 feet, made 30 bbls.; No. 3, SE cor. SW SW, is dry and plugged at 2,493 feet.

Kay County—New Work

Comar Oil Co. is rigging up No. 2, SE cor. NE SE, Section 20-29n-1w. The Texas Company's No. 4 Day, SE cor. SE NE, Section 20-29n-1w, is a rig. (Wilcox test). Comar Oil Co. is rigging up No. 1 Judd, NE cor. Section 29-29n-1w, for a Wilcox test. Marland Oil Co.'s No. 2 Brokenhausen, SE cor. NE SE, Section 17-29n-1e, is spudding and building rig for No. 3, SW cor. NW SE. Carter Oil Co. is drilling up joint 6⅝-inch casing in No. 1 Bradley, NW cor. NE, Section 20-29n-1e. Ona Oil Co. and Carter Oil Co. are rigging up No. 1 Shimp, NE cor. NW, Section 20-29n-1e, to drill deeper. Barnsdall Oil Corp. is building rig for No. 1 Unknown, SE cor. Section 20-29n-5e. Ingram & Wilson's No. 2 Coleman, NW cor. NE, Section 35-28n-3e, is drilling at 170 feet. Harold Petroleum Co. is rigging up No. 5 Case, SW cor. NW SW, Section 4-27n-1w. Blackwell Oil & Gas Co. is rigging up No. 3, NW cor. NE SE, Section 5-27n-1w.

Kay County—Completions

Comar Oil Co.'s No. 8 Priboth, SE cor. NE NW, Section 21-29n-1w, an old well drilled deeper, completed for 40 bbls. at a depth of 2,391 feet.

Garfield County—New Work

Aubyme Oil Co. is rigging up No. 5 Seamans, NW cor. NE NW, Section 1-22-4w. Magnolia Petroleum Co. is rigging up No. 1 Tucker, NE cor. SE, Section 10-22n-3w.

Garfield County—Completions

Prairie Oil & Gas Co.'s No. 12 Wishard, SW cor. SE SE, Section 12-22n-4w, is dry in the Layton sand at 3,730 feet. Sinclair Oil & Gas Co.'s No. 6 Denker, NE cor. SW, Section 13-22-4w, is dry and abandoned at 3,158 feet; No. 45 Walker, SE cor. NE NE, Section 13-22n-4w, had sand at 3,123-34 feet, made 676 bbls. the last gauge. Roxana Petroleum Corp. has a dry hole in the Layton sand at 3,614 feet in No. 10-W Schroeder, SE cor. SW, Section 18-22n-3w. Sinclair Oil & Gas Co.'s No. 17 Kisner, NW cor. SE NW, Section 19-22n-3w, made 75 bbls. from sand at 1,400-08 feet.

Noble County—New Work

Prairie Oil & Gas Co.'s No. 1 Bleidinger, NW cor. SW, Section 22-21n-2w, is drilling at 400 feet.

Noble County—Completions

Magnolia Petroleum Co.'s No. 3 Sams, SE cor. NW SW, Section 15-21-2w, had show of gas at 1,659 feet, break in lime. Completed for 35 bbls. from sand at 1,876-85 feet. Same company has abandoned No. 1 P. F. Lau, NE cor. NW SW, Section 16-21n-2w, on account of lost hole.

Pawnee County—New Work

J. H. Markham, Jr.'s No. 6 Bailey, NE cor. NE, Section 23-21n-7e, is a rig. Minnehoma Oil Co.'s No. 8 Wrightsman, NW cor. NE NW, Section 24-21n-7e, is drilling at 825 feet. J. B. Grieves' No. 5 Hoverkamp, CWL SW SW, Section 31-21n-8e, is a rig. Magnolia has a rig on the ground for No. 3 Fugate, NW cor. NE SW, Section 9-20n-6e. G. Smith has a rig on the ground for No. 1-A Reigel, NW cor. NE NE, Section 27-20n-7e. Tidal Oil Co. has a rig on the ground for No. 10 Arnold, SE cor. SE SW SE, Section 3-20n-8e. Gypsy Oil Co. is rigging up No. 1 Armstrong, SE cor. SE SW SW, Section 4-20n-8e.

Pawnee County—Completions

George Baker and others' No. 1 Phyle, SE cor. NE, Section 3-20n-6e, shut in for 9,000,000 feet of gas in the Bartlesville sand at 2,982-3,043 feet. G. Smith's No. 1 Alleman, NE cor. NW, Section 27-20n-7e, shot with 40 quarts from sand at 2,650-81 feet, made 15 bbls. Minnehoma Oil & Gas Co.'s No. 2 Baker, CNL SE NW, Section 7-20n-8e, made 40 bbls. after a shot of 60 quarts from sand at 2,318-33 feet. Selby Oil & Gas Co.'s No. 8 Van Eman, SW cor. NE SE, Section 23-20n-8e, is dry and abandoned at 2,887 feet. Its No. 9, NE cor. SW SE, completed for 10 bbls. after shot with 30 quarts from sand at 2,886-98 feet.

Payne County—New Work

Magnolia Petroleum Co.'s No. 5 Armour, NW cor. SW SE, Section 8-19n-5e, is a location. Twin State Oil Co. has spudded No. 1 Moore, SE cor. Section 15-19-5e. Empire Gas & Fuel Co. is rigging up No. 6 Hayes, NE cor. SW NW, Section 26-18n-3e. T. C. & M. Oil Co.'s No. 6 Waltman, NW cor. SE NW, Section 26-18n-3e, is a rig.

Payne County—Completions

T. C. & M. Oil Co.'s No. 4 Waltman, SW cor. NE NW, Section 26-18n-3e, had sand at 4,268-86 feet, and made 980 bbls.

Creek County—New Work

Sand Springs Home is rigging up No. 26 Atkins, CSL NW NE, Section 5-18n-7e. Mid-Continent Petroleum Corp.'s No. 27 Cole, NW cor. SW SE, Section 15-17n-7e, is a rig. Barnsdall Oil Corp.'s No. 1 Hayne, NE cor. Section 21-15n-7e, is a rig.

Creek County—Completions

Magnolia Petroleum Co.'s No. 7 Coker, NE cor. NW, Section 16-18-7e, had sand at 2,642-82 feet and made 55 bbls.

Lincoln County—New Work

Phillips Petroleum Co.'s No. 5 Hopewell, NE cor. SW SW, Section 8-15-6e, is a location. Amerada and Madden & Madden's No. 1 Hemming, NW cor. SW SE, Section 34-15n-6e, is a location.

Lincoln County—Completions

Magnolia Petroleum Co. and Gypsy Oil Co.'s No. 1 Temming, SW cor. SE SE, Section 33-15n-5e, is dry and abandoned at 4,345 feet. Phillips Petroleum Co.'s No. 4 Hopewell, SE cor. NW SW, Section 8-15-6e, had sand 4,069-72 feet, and made 477 bbls. Joe Lathrop & Wicker have abandoned the location for No. 1 Updike, SW cor. NE, Section 11-14n-5e. Southwestern Petroleum Co.'s No. 4 Roberson, NW cor. SW SE, Section 11-14n-5e, shot with 40 quarts from sand at 3,360-83 feet and made 5 bbls.

Seminole County—New Work

Amerada Petroleum Corp.'s No. 1 Baker, C SW SE NW, Section 28-10n-6e, is drilling at 675 feet. Prairie Oil & Gas Co.'s No. 2 Kincaid, SE cor. Section 33-10n-6e, drilling at 120 feet; No. 3, SE cor. drilling at 50 feet and No. 4, SW cor. SE SE, is a location. Searight is cementing surface pipe at 28 feet for No. 4 Grayson, SW cor. NE SE, Section 33-10n-6e. Carter Oil Co.'s No. 2 Stewart, SE cor. NW SW, Section 34-10n-6e, and No. 3, NW cor. SW, are both rigs and are digging cellar for No. 4, NE cor. NW SW. Mid-Continent Petroleum Corp. is rigging up No. 2 Grayson, SW cor. Section 34-10n-6e. Carter Oil Co. is rigging up No. 1 Noko, NW cor. SW NW, Section 31-10n-7e. Magnolia Petroleum Co.'s No. 1 Bruce, C SE SE NW, Section 2-9n-5e, is a rig. Carter is cementing 12½-inch casing at 27 feet in No. 1 Davis, NE cor. Section 4-9n-6e. Wilcox Oil & Gas Co.'s No. 1 Cluck, NE cor. NW NE, Section 4-9-6e, is a rig. Kingwood Oil Co.'s No. 1 Johnson, SE cor. Section 22-9n-6e, is a location. Tidal-Osage Oil Co.'s No. 2 Hull, SW cor. SE, Section 23-9n-6e, is a rig. Same company's No. 1 Carter, C SE NW SW, Section 24-9n-6e, is drilling at 450 feet. Its No. 4 Mahardy, C SW NE SW, Section 24-9n-6e, is drilling at 476 feet. Its No. 2 Tayeche, NW cor. NE NW, Section 25-9n-6e, is rigging up.

In Section 26-9n-6e, the following companies have started operations: Gypsy Oil Co.'s No. 1 Fixio, NW cor. NE NW, drilling at 1,285 feet; No. 2, C SE NW NE, drilling at 1,705 feet; No. 3, NW cor. NE, drilling at 140 feet; same company's No. 1 Wolfe, SE cor. SW NW, drilling at 420 feet and No. 2, NE cor. SW NW, drilling at 20 feet. Independent Oil & Gas Co. and Interocean Oil Co.'s No. 1 Jones, NW cor. SW SE, is drilling at 140 feet; No. 2, NE cor. SW SE, drilling at 102 feet. Indian Territory Illuminating Oil Co.'s No. 3 Bowlegs, SW cor. NW SE, is drilling at 600 feet. Pure Oil Co.'s No. 1 Strother, C NE NE SW, is drilling at 600 feet; No. 2, NE cor. SE SW, at 100 feet; No. 3, NW cor. NE SW, at 10 feet; No. 4, NE cor. NW SW, at 20 feet and No. 6, C SE SE SW, is a rig. Tidal-Osage Oil Co.'s No. 1 Fixio, C SE SE NW, is drilling at 1,550 feet; No. 3, C SE NE NW, at 1,100 feet; No. 4, SW cor. SE NW, at 10 feet, and No. 5, NW cor. SE NW, and No. 6, NE cor. NW, are both rigs. Prairie Oil & Gas Co. has a rig on the ground for No. 1 Strothers, SE cor. Section 27-9n-6e. Carter Oil Co.'s No. 1 Strother, NE cor. SE, Section 34-9n-6e, is drilling at 80 feet, no water. Sinclair Oil & Gas Co.'s No. 1 Grisso "A", C NE NE NW, Section 35-9n-6e, is a rig, and No. 1 Grissco "B", C NW NW NW, Section 35-9n-6e, also is a rig. T. B. Slick's No. 1 Fransk, NW cor. NE, Section 35-9n-6e, is a rig. Gypsy Oil Co. has a rig on the ground for No. 1 Frazee, SW cor. NE SW, Section 36-9n-6e. Plover Drilling Co.'s No. 1 Add, SW cor. SE, Section 8-9n-8e, is a rig. Producers & Refiners Corp.'s No. 10 Amos, NW cor. NE SE, Section 31-8n-8e, is drilling at 1,340 feet; No. 11, SW cor. NE SE, at 200 feet and No. 12, NW cor. SW SE, is a location. Dixie Oil Co. has a rig on the ground for No. 3 Parker, NE cor. SW, Section 32-8n-8e. Magnolia has a rig on the ground for No. 5 (twin to No. 2) Jones, SE cor. NW, Section 32-8n-8e. Producers & Refiners Corp. has a rig on the ground for No. 4 Long, SE cor. SW NE, Section 32-8n-8e. Shaffer Oil & Refining Co.'s No. 8 Jones, CNL NW SW NW, Section 32-8n-8e, is a location. Mid-Continent Petroleum Corp.'s No.

(Continued on Page 118)

LYONS COUNTY, KANSAS, OPERATORS TRYING FOR BARTLESVILLE SAND

By J. L. Dwyer
Staff Correspondent, Kansas Fields

Outside of a few inside completions in Greenwood County, and a report of several new operations in Lyons County, there was little news from the Kansas Fields during the past week. In Lyons County, there is an effort being made to obtain some production from the Bartlesville sand found across the line in Greenwood County. The current report indicates the scene of activity.

Rice County—New Work

Prairie Oil & Gas Co. has spudded No. 1, NW cor. SW NE, Section 2-21-6w; No. 2, SW cor. NE, Section 2-21-6w, is drilling at 650 feet; No. 2, SE cor. SE, Section 34-20-6w, is drilling at 450 feet.

Cowley County—Completions

Dorie Oil Co. has completed a gas well in No. 1, NW cor. NE, Section 4-33-7. Sand was at 2,419-34 feet and the well is shut in with 500,000 feet of gas.

Cowley County—New Work

Dan Patton and others are drilling at 400 feet in No. 2, NW cor. NE NE, Section 31-31-6. Independent Oil & Gas Co. has a rig on the ground for No. 1 Swanson, SW cor. SE, Section 15-32-4. Trees Oil Co. and others' No. 1, SE cor. SW, Section 15-32-4, is drilling at 1,020 feet. T. B. Slick has a rig up for No. 1, NW cor. NE, Section 22-32-4. J. A. Hull Co. is drilling at 1,080 feet in No. 16, NE cor. NE, Section 24-32-4.

Sumner County—New Work

Roxana Petroleum Corp. has a rig up for No. 2 Vansickle, SW cor. NW SE, Section 25-31-2. Wentz Oil Corp. has the rig up for No. 1 Herrick, NW cor. SW SE, Section 25-31-2. Roxana Petroleum Corp. has the rig on the ground for No. 2 Churchill, SE cor. NE SW, Section 25-31-2, and for No. 3 Churchill, NE cor. SE SW, Section 25-31-2.

Elk County

Benge and others are drilling at 1,270 feet in No. 1 Hanna, NW cor. SW, Section 36-29-10. Ohio Fuel Co. has spudded No. 2 Burge, C SW NW, Section 13-30-8. Pure Oil Co. is drilling at 1,365 feet in No. 11, NE cor. SE, Section 14-31-10. H. Miller and others are drilling at 1,150 feet in No. 1 Nelson, SW cor. NW, Section 5-31-11.

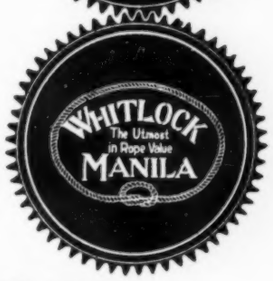
Butler County—New Work

Neely Oil & Gas Co. has the rig up for No. 1 Mulch, C SE SE, Section 33-26-3. Sinclair Oil & Gas Co. and the Empire Gas & Fuel Co. have a rig up for No. 12 Starkey, NW cor. NE SE, Section 35-27-4. D. B. Golden and others have spudded No. 1, NW cor. SW, Section 20-26-7. W. S. Hoyt is drilling at 300 feet in No. 6, CWL SE NW, Section 20-27-6. Empire Gas & Fuel Co.'s No. 2, NW cor. SW SE, Section 12-27-7, is drilling at 350 feet. Clark & Erwin have a rig up for No. 1, SW cor. NW, Section 14-28-3.

Butler County—Completions

Templeman & Franz have a failure in No. 1, NE cor. SW, Section 30-23-7, which is abandoned at 2,820 feet. H. H. Patton and others' No. 1, SW cor. NW, Section 14-27-5, is dry and abandoned at 3,190 feet. Empire Gas & Fuel Co.'s No. 31, NE cor. NW NW, Section 29-28-4, is making 130 bbls. from sand at 2,471-74 feet. Phillips Petroleum Co.'s No. 1, SW cor. NW, Section 9-27-6, made 20 bbls. of oil and 20 bbls. of water from

(Continued on Page 115)



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Big Wildcat Gasser in Union County

Well in Old Lawson Area Recalls Early Smackover Days
Making 30,000,000 Feet of Gas and 20,000 Bbls. Salt Water

By James H. Dameron
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 30.—A wildcat gas well running wild in Union County, Arkansas, precipitated a furor of excitement for operators interested in that area and claimed the attention of oil men in the entire district, while a 15-cent cut in Urania crude was the most interesting news to those interested in the Urania Pool.

The big gasser was Simms Oil Co. and Sun Oil Co.'s No. 1 Simmons, NW cor. NE SE, Section 9-18-13, which blew in last Sunday at 2,650 feet, making 30,000,000 feet of gas and 20,000 bbls. of salt water and tore away the derrick. The salt water is believed to be coming from salt water sand cored at 2,503-17 feet. The well ran wild for three days, throwing salt water over the nearby terrain before it was closed in. It was opened up Saturday morning and found to be bridged over.

The last casing set in the hole was 8¼ at 2,187 feet where the Nacatoch sand was topped and found to be dry. The salt water sand was cored and drilled through and drillers were pulling out of the hole when the well blew in. All but 16 joints of the drill stem were out of the hole when the gas shot them to the top of the derrick and ripped it away. The water, darkening at times, led some oil men to believe the well was making a little oil by heads. Although there is 463 feet of open hole an effort is to be made to set 6-inch casing and make a test. A new derrick is up and rigged.

News of the well caused seething excitment in El Dorado and among operators in other sections of the district. Those operators bore in mind Smackover, the world's biggest oil field, was discovered in a similar manner. Wild gassers that soon cratered marked the first efforts of Smackover wildcatters.

In Old Lawson Area

The well is in the old Lawson area and is surrounded on all sides except the southeast side by deep dry holes, 2 or 3 miles away. Operators and lease brokers started beating the bushes for the scattered leases in that section and a fast trading of leases in that area was the order of the day for three or four days. Prices leaped to $100 an acre and rose to $500 an acre in $50 jumps.

The wildcat is about 2 miles east of the Humble's deep test in that section which was dry with a showing of light oil. Since then the area has been tested slowly. The Sun Oil Co. made up most of the block on which the gasser was drilled and later sold half interest to the Simms Oil Co. The block was cut up by numerous small leases and since the Nacatoch sand was hit the Simms and Sun companies have been filling in the block. Since the well blew in they have bought additional acreage. The Standard, Gulf, Southern, Phillips and Shaffer and Natural Gas & Fuel Corp. are listed among the biggest buyers. The National Gas & Fuel Corp. paid the top price when it bought a diagonal southwest 10-acre offset lease for $500 an acre. That company is rigging up for its No. 1 Cordell, NE SW NW SE, Section 9-18-13. The area will undoubtedly get a fast drilling campaign in the opinion of most operators and the Natural Gas & Fuel Corp. has gas lines all over Smackover supplying fuel for drilling.

South of the Simms and Sun companies' well, Walber and associates' No. 2 Cordell, Section 6-19-13, set 6-inch at 2,967 feet to test sand at 2,967-81 feet. Aside from the Simmons wildcat Union County was quiet with two other wildcats going out of the picture at deep depths. Completions in Arkansas for the week were of routine character.

Effective at 7 o'clock August 26, Louisiana Oil Refining Corp., principal buyer of Urania crude, cut the price of that crude 15 cents per barrel, bringing it down to $1.10 a barrel. Little demand for that grade of oil, a lub oil testing around 20.5 gravity, because of the amount of oil Spindletop is dumping on the market, was the reason for the cut. The gates at Texas coast refineries have been partially closed against Louisiana-Arkansas pipeline runs the past few days because of the heavy runs from Spindletop.

Urania Completions

Completions in Urania during the week lagged from the pace that field usually maintains. Water encroachment is proving a serious menace in the recently opened southeast extension of the pool. All of the wells completed there last week were making a bunch of water with the oil. Two wells being completed started flowing salt water and are being plugged back.

In the Georgetown area Gulf is getting ready to drill an offset test to its 35-bbl. wildcat well. The Texas Company's wildcat test east of the Gulf is being plugged back for another test. The test drilled itself deeper and that is believed to be partly responsible for the heavy water showing in the oil.

Failure was the reward for other wildcatters who reached the 1,500-foot level along the flexure. However, the play along the flexure remains strong and acreage is still being blocked. The play has extended over to the Mississippi River and east Carroll Parish is getting its first test since the big flexure wildcat campaign opened early last spring. Several new tests were started during the week.

Losses in daily average production of Arkansas fields brought about a 310-bbl. loss in the district average when compared to the previous week's report. Smackover light and Nevada were the only two fields showing gains in Arkansas. Lisbon continues to drop off at a rapid rate.

In Louisiana all fields save Bellevue, Caddo light and Cotton Valley gained to give Louisiana a 585-bbl. gain. Caddo light was barely able to hang into the 10,000-bbl. class of pools.

Production by fields:

Arkansas

Smackover heavy	121,135
Smackover light	14,940
El Dorado	7,020
Lisbon	8,852
Nevada	1,985
Stephens	1,845
Total	155,777

Louisiana

Bellevue	2,008
Caddo light	10,014
Caddo heavy	2,827
Cotton Valley	7,940
De Soto and Red River	4,213
Elm Grove	542
Haynesville	9,510
Homer	5,520
Urania	14,311
Total	56,885
Total both states	212,662
Total last week	212,972
Difference	310

Bellevue Field, Louisiana

Gulf Refining Co.'s No. 20-A Bliss and Wetherbee, Section 15-19-11, was completed at 420 feet pumping 100 bbls. of fluid, 85 per cent salt water. Location was staked for Gulf's No. 21-A, 954 feet south and 837 feet east NW cor. Section 15-19-11. Six-inch casing was set at 361 feet at George Wetherebee's No. 13-A fee, Section 15-19-11, and No. 14-A is shut down at 120 feet.

Caddo Parish

Caddo Parish turned in five completions during the week, four oil wells and one gas well in the Waskom Field. Gulf's No. 245 Ferry Lake, Section 22-20-16, was completed at 2,262 feet, pumping 80 bbls. of oil. Gulf's No. 6-U Caddo L. B., Section 9-20-16, was finished at 2,286 feet pumping 6 bbls. of oil. Dixie Oil Co.'s No. 78 Robertshaw, Section 14-21-15, was completed for a 12-bbl. chalk rock pumper at 1,640 feet. The Texas Company's No. 48 C. M. L. Co., Section 26-21-15, was completed in the same formation at 1,680 feet for a 5-bbl. pumper. Owl Oil Co.'s No. 2 Bryson, Section 7-17-16, was completed at 2,612 feet for a 15,000,000-foot gasser.

Interesting among the deep tests in Caddo is the Magnolia Petroleum Co.'s No. 10 Robertshaw, Section 23-21-15, which was completed early in June at 3,602 feet making 30,000,000 feet of gas and which is being deepened. It is drilling in lime at 3,610 feet. Magnolia's No. 16 Dillon, Section 24-21-15, is drilling in lime at 3,394 feet and No. 17 is drilling hard shale at 3,570 feet. Magnolia's No. 1 Spell, Section 29-21-15, is fishing for the drill stem at 3,552 feet and No. 1 Wiley Bradford, Section 24-21-15, is going through lime and shells at 3,765 feet.

Dixie Oil Co.'s No. 1 Jolly, Section 27-22-15, is drilling broken lime at 4,232 feet. Gulf Refining Co.'s No. 1 J. M. Byrd, Section 2-19-14, is drilling hard blue shale at 3,658 feet. Gulf's No. 1-E Muslow, Section 35-21-15, is in red and blue shale at 4,963 feet with the drill stem stuck. The Texas Company's No. 42 C. M. L. Co., Section 23-21-15, is drilling in sandy lime at 3,729 feet. Gulf Refining Co. is still leading in operations in other sections of Caddo with six tests drilling, two more locations and four derricks up. Most of the Gulf's work is on the Ferry Lake lease. Locations were for No. 256 Ferry Lake, 1,020 feet north and 2,340 feet west SE cor. Section 15-20-16, and for No. 257 Ferry Lake, 2,510 feet west and 1,040 feet south NE cor. Section 29-20-16. W. D. Chew's No. 5 State, Section 34-21-16, waiting for a standard rig at 1,835 feet.

Dixie Oil Co.'s No. 17 Muslow, Section 7-20-15, is coring at 2,257 feet, and No. 10 Slattery, Section 27-21-15, is drilling in chalk rock at 1,630 feet. A fishing job at 1,400 feet was finished at Gilliam Syndicate's No. 1 Sellington, Section 17-21-14, and 10-inch casing was cemented at 1,418 feet. Morris Drilling Co.'s No. 1 Palo Oil Co., Section 1-20-16, is waiting on a standard rig at 2,239 feet. Ohio Oil Co. is standardizing No. 20 E. K. Smith, Section 12-21-15, and will drill in at 1,475 feet, and a rig is up for No. 21 Smith, 1,345 feet south and 880 feet east of the center of Section. Owl Oil Co.'s No. 1 Bryson, Section 9-17-16, tested 1,000,000 feet of gas at 2,632 feet and is to be deepened. Richardson Oil Co.'s No. 3, Section 31-21-15, is a rig. Superior Oil Co.'s No. 4 Youree, Section 26-20-15, is waiting for a standard rig at 2,290 feet, 6-inch was cemented at 2,215 feet at No. 5.

On The Texas Company's leases, No. 64 Caddo L. B., Section 33-21-16, is drilling at 286 feet; No. 1-B, Section 22-15-12, is drilling at 650 feet. Six-inch was set at 1,419 feet at No. 40 C.

MEXICAN PETROLEUM CO. COMPLETES 8,000-BBL. WELL IN EBANO SECTOR

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mex., Aug. 27. — While only seven wells were completed in Mexican fields the past week the three scheduled as finishing in the pay are rated good for a flush production of say 13,000 bbls. All of the completions were in the northern fields.

The best well of the week is Mexican Petroleum Co.'s No. 59 La Dicha, in the Ebano sector of the northern fields, which at 1,605 feet is good for 8,000 bbls.; the company's No. 11 Mendez is rated for 2,000 bbls. at 2,305 feet, a rather deep hole. Over in the Limon, south and west of Ebano, the Marland's subsidiary, Cia. Franco Espanola S. A., No. 46-A Limon is a 3,000 bbl. well at 1,885 feet. It might be remarked in passing that with one exception (No. 24, finished April, 1925, at 1,855 feet, flush production rated 4,000 bbls.) this No. 46-A Limon is the best well the Marland people have yet finished in this extensive Limon holding.

The failures follow: National Lines' No. 53 Altamira, a federal zone test on the north bank of the Tamesi River, in the state of Tamaulipas, is a dry hole at 2,221 feet, finishing in the Tamasopa lime. This marks the second duster this interest has finished in this sector, which is more or less the center of attraction at this time. Cia. Pet. Capuchinas' No. 4, Lot 12 West Maguabes (Panuco), is a fluid failure. Transcontinental Petroleum Co.'s No. 11, Lot 14 West Maguabes, is a dry hole at 2,250 feet. Mexican Petroleum Co.'s No. 111 La Dicha (Ebano) is dry at 2,070 feet.

Panuco-Cacalilao

Field operations in the Panuco and Cacalilao sectors of the northern fields, as the week ended, are best reflected as follows: In Cacalilao, La Corona Petroleum Co.'s No. 157, Lot 1, has cemented 8-inch in the San Felipe at 1,100 feet, and is testing; its No. 158, same, is in gray lime with a showing of oil at 1,685 feet; its No. 185, Lot 4, is spudding; No. 184, same, is in shale at 165 feet, and its No. 186, same, has spudded. In the Panuco, La Corona's No. 122 Delicias has cemented 8-inch in gray lime at 1,280 feet; No. 123 La Polla is in a similar formation at 1,600 feet; No. 124 Ojital has cemented 8-inch in gray lime at 1,280 feet; No. 125 Salvasuchi is in the same formation at 1,650 feet and No. 8 Chijol is in shells at 1,430 feet. Consolidated Oil Fields of Mexico's No. 6, Lot 6 Camolote, is shut down for fuel in gray lime at 2,023 feet. Cia. Pet. Francia Mexico's No. 9-A Piedras is in shale at 735 feet; its No. 13 there is rigging. English Oil Co.'s Nos. 15 and 16 Rufinos and No. 14 Lopes are waiting permits. International Petroleum Co.'s No. 274, Lot 5 Cacalilao, is spudding and No. 278, same, is in shale at 267 feet. Cia. Pet. La Maritima's (federal zone) No. 16 Ojital is around 200 feet in shale.

(Continued on Page 82)

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M. L. Co., Section 23-21-15; liner is being set to test at 2,358 feet at No. 54 Harrell, Section 4-21-16; No. 12 Russell, Section 3-20-16, is drilling in sand rock at 1,928 feet. Thomason and associates' No. 1 Muslow fee, Section 31-21-15, is a rig. Ten-inch casing was set at 1,420 feet at Tholl Oil Co.'s No. 11 Bashara, Section 23-21-15. Six-inch casing was cemented at 1,040 feet at Unity Petroleum Co.'s No. 1 Crystal, Section 13-21-16, and No. 2, Section 24-21-16, was dry in the chalk rock at 1,749 feet, and is to be deepened. Sand rock at 1,830 feet is being tested at Victor Wenzel's No. 1 Thomas, Section 15-20-15, and at 1,849 feet at No. 1 Wemple, Section 14-20-15.

Monroe District

The only gas well completed in the Monroe Field last week was Central Co.'s No. 1 Kerr, Section 12-9-4, which was completed at 2,159 feet making 1,000,000 feet of gas. Six-inch casing was cemented at 2,102 feet at Feazel's No. 1 Archer, Section 22-20-4e. Standard Oil Co.'s No. 1 Cooperage, Section 34-21-3e, drilling in hard rock at 1,028 feet. United Carbon Co.'s No. 1 Clarke, Section 26-20-5e, is drilling at 505 feet. Arrangements are being made to abandon Gulf's No. 1 West Virginia, Section 17-17-5e, at 690 feet. Location was made for Hatcher & Evans' No. 3 fee, 1,571 feet east and 660 feet north SW cor. Section 17-19-4e. Surface casing was set at 185 feet at Ladell's No. 34 fee, Section 6-19-5e. Ouachita Gas Co.'s No. 6 Smith, Section 37-20-4e, has spudded. Palmer Corp.'s No. 3 Cole, Section 43-19-4e, is drilling at 1,790 feet. Location was staked for Peerless Co.'s No. 3 Moore, 2,140 feet north and 812 feet west SE cor. Section 49-20-4e. United Carbon Co.'s No. 1 Patton, Section 10-20-4e, is drilling at 248 feet. Arkansas Fuel Oil Co.'s No. 1 Reeves, Section 14-20-1e, is drilling in hard sandy shale at 4,292 feet. Six-inch was cemented at 2,115 feet at Ruston Drilling Co.'s No. 1 Mayfield, Section 30-20-4e.

Webster Parish

Humble Oil & Refining Co.'s deep test, No. 2 Cox, Section 22-21-10, is drilling in lime at 3,778 feet. R. W. Norton's No. 1 Josey & Massey, Section 27-21-10, is drilling in lime at 3,975 feet. The Ohio Oil Co. is plugging No. 1 Cox, Section 23-21-10, back from 5,957 feet to 4,714 feet to test. Casing will be swung to make the test. Four and one-half inch casing was cemented at 4,650 feet, steel line measurement, at Smitherman & McDonald's No. 1 Oakley, Section 29-23-11. Southern Crude Oil Purchasing Co. and Ramsey's No. 1 Munn, Section 1-22-10, fishing for drill stem at 4,620 feet.

In the Shanagaloo district, Belchic & Laskey's No. 1 Peckett, Section 30-23-9, is drilling at 1,720 feet. Six-inch was set at 2,550 feet at Magnolia's No. 3 Tiner, Section 21-21-10, and No. 3-A Turner is rigged. Ohio Oil Co. abandoned location for No. 4 Bank of Cotton Valley, Section 22-21-10. Palmer Corp.'s wildcat test, No. 1 Crichton, Section 30-20-8, is drilling at 1,733 feet.

Urania Field

Most interesting of developments in Urania were in the northern and southern ends of the field. In the north Keene & Woolf's No. 1-A Collins, Section 7-10-2e, failed to extend production and was abandoned in salt water sand at 1,524-34 feet. In the south end salt water encroachment is menacing that newly opened territory. Louisiana Oil Refining Corp.'s No. 2-C Tremont, Section 2-9-1e, is pumping 30 bbls. of fluid, 20 per cent salt water, from 2 feet of sand topped at 1,501 feet. George W. Wetherbee's No. 4 Urania, Section 2-9-1e, is flowing 150 bbls. of fluid, 50 per cent salt water, from sand at 1,497 to 1,503 feet. Yeary & Bristol's No. 3 Urania, Section 2-10-2e, is flowing 100 bbls. of fluid, 20 per cent salt water from sand at 1,517-21 feet. On inside acreage only three wells were finished during the week. Arizola's No. 9 Tannehill, Section 36-10-1e, pumping 15 bbls. at 1,528-32 feet. Louisiana Oil & Refining Co.'s No. 14-B Tremont, Section 25-10-1e, pumping 125 bbls., 75 per cent salt water, at 1,520-24 feet, and No. 1-C Tremont, Section 35-10-1e, pumping 30 bbls., 8 per cent salt water, at 1,505-14 feet. The Louisiana Oil & Refining Co. abandoned two old tests that were temporarily abandoned months ago and location for another as follows: No. 10-B Tremont, Section 25-10-1e, 1,692 feet; No. 12-B Tremont, same section, 1,565 feet, and No. 1-B Tremont, Section 30-10-2e.

Beckman & Freeman's No. 5-B Urania, Section 7-10-2e, is waiting for a standard rig at 1,529 feet; liner is being set to test sand at 1,508-12 feet at No. 6-B; No. 7-B, drilling at 600 feet, and a derrick is up for No. 8-B, NW cor. SW NE, Section 7-10-2e. Carter & Hurley's No. 1-C Urania, Section 3-9-1e, is a derrick. O. W. Clark's No. 5 Tullos, Section 23-10-1e, has 1,000 feet of oil in the hole from sand at 1,501-05 feet and is waiting for a standard rig. Chal Daniel's No. 1 Urania, Section 2-9-1e, is shut down at 105 feet for orders. Six-inch casing was cemented at 1,520 feet at Finn & House's No. 2 Smith, Section 26-10-1e.

H. L. Hunt's No. 2 Griswold, Section 2-9-1e, is flowing salt water from sand at 1,495-97 feet and is to be plugged back. Hunt's No. 3 Griswold is flowing 25 bbls. of salt water daily from sand at 1,509-12 feet and is shut down for orders. Henry Jones' No. 2 Taylor, Section 23-9-1e, is shut down at 1,612 feet. Keene & Woolf's No. 1 Griswold, Section 3-9-1e, is a rig, and surface casing was set at 191 feet at No. 2 Griswold. Six-inch casing was cemented at 1,525 feet at Louisiana's No. 10-A Tremont, Section 35-10-1e, and at 1,515 feet at No. 21-B Tremont, Section 30-10-2e. Six-inch was cemented at 1,499 feet at Louisiana's No. 3 Tremont, Section 2-9-1e, and No. 6-C Tremont, Section 3-9-1e, is a derrick.

Montague Oil Co.'s No. 3 Zenoria, Section 11-9-1e, was in sand at 1,501-03 feet when 6-inch casing collapsed and the crew is waiting for orders. Natural Gas & Fuel Corp.'s No. 3-A Russell, Section 26-10-1e, had sand at 1,546-53 feet and is waiting for a standard rig; No. 4-A is drilling at 400 feet; the plug at 1,475 feet is being drilled at No. 3-M Urania, Section 20-10-2e, and 6-inch is being set at 1,475 feet at No. 4-M in Section 20. Rochelle Oil Co.'s No. 1 Tremont, Section 30-10-2e, is drilling at 700 feet. C. S. Thomas' No. 1 Urania, Section 18-10-2e, topped the sand at 1,527 feet. Six-inch casing was cemented at 1,475 feet, steel line measurement, at George Wetherbee's No. 3 Urania, Section 2-9-1e. Wooten Petroleum Co.'s No. 1 King, Section 36-10-1e, is being bailed to test at 1,525-28 feet. Surface casing was set at 102 feet at Yeary & Bristol's No. 4 Urania, Section 2-10-2e.

On the Winn Parish side of Urania, Allen and associates' No. 1 Allen, Section 23-10-1e, is drilling at 1,000 feet. Same company's No. 1 Sanders, Section 21-13-2w, is a rig. Six-inch pipe was cemented at 1,465 feet at O. W. Clark's No. 7 Harper, Section 26-10-1e.

Union County, Arkansas

Two good wells were completed in the Norphlet area of the Smackover Field in Arkansas last week. The best was Gulf Refining Co.'s No. 22 T. C. Murphy, Section 9-16-15, pumping 300 bbls. from sand at 2,374-86 feet. Next in line was Simms Oil Co.'s No. 4 Murphy, Section 15-16-15, which is flowing 210 bbls. through 2-inch tubing from sand at 2,596 to 2,602 feet. Hatfield and associates' No. 3 Ellis, Section 23-17-16, was dry and abandoned with the casing in the hole at 2,235 feet. Magnolia's No. 2 Werner Co., Section 1-16-17, was put on the pump in sand at 2,240-53 feet and is making 45 bbls.

In the Lisbon Field, Humble Oil & Refining Co.'s No. 1 Goodwin, Section 20-17-16, is pumping 40 bbls. from sand at 2,130-57 feet. Imperial Oil & Gas Co.'s No. 3 Primm, Section 21-17-16, was a 17-bbl. well at 2,114-32 feet. Lion Oil & Refining Co. completed three wells on its Mitchell lease in Section 17-17-16. No. 6-A was drilled to 2,100 feet, cored to 2,115 feet, then plugged back to 2,100 feet and completed as a 500,000-foot gas well; No. 11-A is pumping 15 bbls. from sand at 2,130-65 feet and No. 5-B is a 30-bbl. pumper in sand at 2,150-78 feet. J. D. Reynolds' No. 5 Dumas, Section 15-17-16, is a 15-bbl. pumper in sand at 2,116-71 feet. Rovenger Oil Corp.'s No. 7 Dumas Section 9-17-16, is pumping 30 bbls. from 2,091 to 2,115 feet. On the southeast side of the field, Rovenger Oil Corp.'s No. 1 Snyder, Section 22-17-16, was completed at 2,151-76 feet and is flowing 4 bbls. through 2-inch tubing set with a packer.

Field operations in Lisbon are beginning to fall off. Atlantic Oil Producing Co.'s No. 4 Ford, NW cor. Section 3-17-16, is a derrick pattern. Easton and associates' No. 3 Mooty, Section 22-17-16, has 300 feet of oil in the hole from sand at 2,137-67 feet and is waiting for a standard rig. Six-inch pipe was cemented at 2,065 feet at Gulf Refining Co.'s No. 3 Parker, Section 21-17-16, and at 2,072 feet at No. 4. Gulf's No. 1 Patterson, Section 20-17-16, is drilling at 1,630 feet. Gulf's No. 4 Primm, Section 21-17-16, has 300 feet of oil in the hole from sand at 2,110-55 feet and is waiting for a standard rig. Humble Oil & Refining Co.'s No. 2 Goodwin, SE cor. NE SE, Section 20-17-16, is a rig. H. L. Hunt's No. 8 H. O. Murphy, Section 4-17-16, is drilling at 665 feet. Imperial Oil Products Co.'s No. 1 Parker, NW SE NW, Section 21-17-16, is drilling at 1,040 feet, and No. 4 Primm, SW cor. NE NW, Section 21-17-16, is a rig. J. L. Meek's No. 1 Milner, Section 15-17-16, is waiting for a standard rig at 2,202 feet and a derrick is up for No. 2 Milner, NW NW SE, Section 15-17-16.

On the Lion Oil & Refining Co.'s Mitchell lease, Section 17-17-16, No. 1-A is waiting for casing to set at 2,074 feet; 6-inch was cemented at 2,115 feet at No. 10-A; a derrick is up for No. 13-A, NE cor. SW SE; No. 16-A is being bailed to test at 2,143-73 feet and No. 17-A, C NE NE, is a derrick. On the Magnolia Petroleum Co.'s Halsey lease, Section 20-17-16, No. 2 is waiting for a standard rig and is in sand at 2,127-58 feet. The plug at 2,122 feet is being drilled at No. 3 and derricks are up for No. 4, SE cor. NW NE, and No. 5, SW NE NE, Section 20. Magnolia's No. 2 A. E. Slaughter, SE cor. NW SE, Section 17-17-16, is a rig. Six-inch casing was cemented at 2,119 feet at Ohio Oil Co.'s No. 2 F. M. Stocks, Section 21-17-16. Reynolds & Marr's No. 2 Mooty, Section 22-17-16, is a rig. Rovenger Oil Corp.'s No. 8 Dumas, Section 9-17-16, is drilling at 2,014 feet and surface casing was set at 82 feet at No. 4 Graham, Section 16-17-16. Roxana Petroleum Corp.'s No. 3 Willett, CWL SW NW, Section 3-17-16, is a rig. Southern Crude Oil Purchasing Co.'s No. 1 Tooker, Section 3-17-16, had sand at 2,035-65 feet and is waiting for a standard rig.

Little new work was started in Smackover last week. Ackerly and associates' No. 1 Murphy, Section 1-17-16, is drilling at 1,965 feet. Bailey & Trimble's No. 2 LeCriy, Section 17-16-15, is drilling at 2,557 feet. It was completed in June last year as a 2,500-bbl. well at 2,492 feet. Four and one-half inch casing was set at 2,660 feet at F. A. Book's No. 1 McDonald, Section 1-16-16. Gladys Belle Oil Co.'s No. 5-A Cook, Section 16-16-15, is drilling at 500 feet. Grimes & Jones' No. 1 Prothro, Section 3-18-15, is drilling at 2,513 feet. Six-inch casing was cemented at 2,352 feet at Gulf Refining Co.'s No. 39 Hardy-Murphy, Section 5-16-15; No. 40, Section 3-16-15, is drilling at 2,320 feet and surface casing was set at 309 feet at No. 41.

Six-inch was cemented at 2,231 feet at Gulf Refining Co.'s No. 47 L. Werner, Section 6-16-16. The plug at 2,522 feet is being drilled at H. M. Harrell's No. 7 Flenniken, Section 23-17-16. F. C. Henderson's No. 3 Smith, Section 18-16-15, is drilling at 2,648 feet. Holleyfield & McFarlane's No. 10 Giller, Section

(Continued on Page 115)

WILDCAT OPERATIONS THROUGHOUT LOUISIANA AND ARKANSAS AREA

By James H. Dameron
Staff Correspondent, Louisiana-Arkansas

EL DORADO, Ark., Aug. 30.—Union County wildcat territory did the shouting for the entire district when Simms Oil Co. and Sun Oil Co.'s No. 1 Simmons, NW NE SE, Section 9-18-13, blew in at 2,650 feet, making 30,000,000 feet of gas and around 25,000 bbls. of salt water believed to be coming from salt water sand cored at 2,503-17 feet. The derrick was torn down by the wild gasser spraying the big volume of salt water over the countryside. It has been closed in and a new derrick is being built.

While the Simmons wildcat was working Arkansas operators into feverish excitement, two other tank wildcats were checked off the list. The first was the Arkansas Drilling Co.'s No. 1 Townes, Section 34-19-11, which was dry and abandoned in red gumbo at 2,702 feet. It is about 4 miles southwest of Spinold. The other was the Natural Gas & Fuel Corp. and Atlantic Oil Producing Co.'s No. 1 Taylor, Section 23-18-17, 4 miles northwest of Wesson. It was abandoned in red shale at 3,148 feet which was topped at 3,133 feet.

Bonderant and associates' No. 1 Garner, Section 8-18-12, is drilling at 2,026 feet. Matthews and associates' No. 1 Lewis, Section 14-19-12, is drilling at 2,450 feet. A. H. Stoltz' No. 1 Wait, Section 4-18-16, tested dry with a small show of oil and gas in sand at 2,176-92 feet. The liner is being pulled and the test will be deepened. Walber and associates' No. 2 Cordell, Section 6-19-13, in the Lawson area, had sand at 2,967-81 feet and casing was cemented on top of the sand. Wingfield and associates' No. 1 McGough, Section 22-17-13, is drilling at 1,000 feet.

Ashley County

Pine Prairie Oil Co.'s No. 1 fee, Section 7-17-5, is flowing hot salt water and making about 1,000,000 feet of gas from 3,650 feet. The test is shut down and will probably be plugged back to the Nacatoch to try and complete the test as a gas well and another test drilled, according to the owners.

Bradley County

Magnolia Petroleum Co.'s No. 1 Arkansas Timber Co., Section 33-15-11, is drilling in gumbo at 2,100 feet. McMurry and associate's No. 1 Southern Lumber, Section 7-15-11, is drilling at 2,803 feet. Wingfield and associates' No. 1 Southern Lumber, Section 2-16-12, is drilling at 1,400 feet.

Calhoun County

Delmar Oil Co.'s No. 1 Guidor, Section 16-11-14, is drilling at 1,251 feet.

Grant County

Jones and Watkins have a derrick pattern on location for No. 1 Meek, NE cor. SE SW, Section 5-4-11.

Hempstead County

Frank S. Myers' No. 2 Nichlos, Section 17-11-25w, is drilling at 2,245 feet.

Jefferson County

Decem Oil Co.'s No. 1 Hinsley, Section 7-3-10, is shut down at 2,530 feet.

Lafayette County

The Texas Company's No. 1 Colvin, Section 14-17-24, was dry and abandoned at 2,800 feet.

Little River County

Greason and associates' No. 1 Waldrop, Section 4-13-31, is drilling at 1,385 feet.

Miller County

Gulf Refining Co.'s No. 1 Dorsey, Section 27-17-26, is drilling in blue gummy shale at 2,362 feet. W. D. Nash and associate's No. 1 Priest, SW NW NE, Section 26-14-27, is drilling at 3,010 feet.

LOUISIANA

Bienville Parish

Woodley and Collins' No. 1 Thomas,

(Continued on Page 114)

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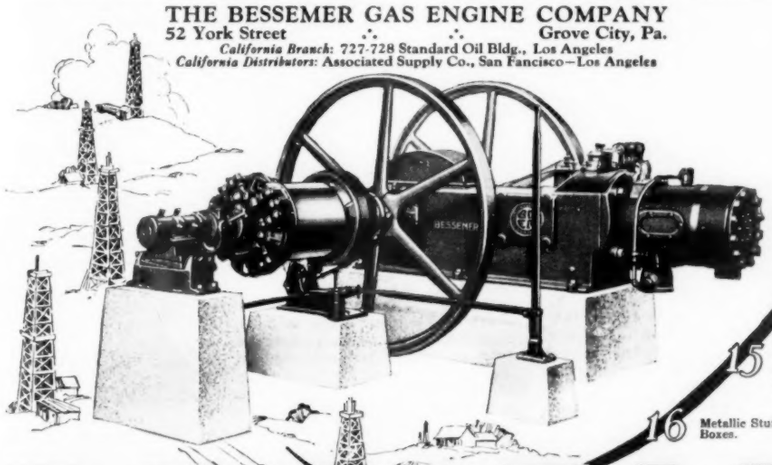

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Randado Well Made 70 Bbls. Per Hour

Aviator, Mid-Ojuelos, Carolina-Texas and Randado Fields All Contribute a Good Week in Southwest Texas

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 30.—An increase in the daily production of the Aviator, Mid-Ojuelos, Carolina-Texas, Randado and Henne-Winch-Fariss oil pools of 3,265 bbls. of crude oil per day was the result of oil wells completed in these fields during the past week, the Randado Pool in Jim Hogg County heading the list with a total increase in production of 1,880 bbls. daily. The largest single contributing well to this total was the Simms Oil Corp.'s No. 12 Palacious, which flowed at the rate of 50 bbls. per hour and later increased to 70 bbls. per hour.

The scarcity of water still interferes with the swift completion of many wells in the Carolina-Texas Field in Webb County where many wells are standing awaiting the drilling of water wells. The Moody Oil Corp. has just secured a good water well for their No. 1 Benavides and have resumed drilling but at least a half dozen other important wells are idle until water can be piped or a water well drilled to secure the necessary accompaniment to drilling operations. Among these are the Morgan Brothers & Killam No. 1 Webster, the Morgan Brothers & Best No. 1 Webster, the Morgan Brothers No. 1 Benavides, the Houston Oil Co.'s No. 1 Barnsley, the Hazlitt-Simmons No. 1 de la Garza, the United States Gas & Oil Co.'s No. 1 Benavides, while the Hazlitt-Simmons No. 1 Barnsley has just resumed drilling at 1,968 feet after a lengthy wait for water.

The Associated-Carson well's 2,600-foot level has been the lure the many wells drilling in that field have been seeking and the scarcity of water has been a source of chafing delay to the oil men who are anxious to reach the expected oil sands at that depth. The Associated has its own water line which furnishes water for its own rigs and their wells have been making good time getting down to the 2,600-foot depth desired.

Randado Pool

The Randado Pool in Jim Hogg County claimed distinction as completing wells with the largest increase in daily production of any pool in the southwest Texas territory during the past week. Five completions were reported from this field, the largest being the Simms Oil Co.'s No. 12 Palacious in the northwest quarter of the Simms tract in Survey 291, which came in flowing 25,000,000 feet of gas and 1,200 bbls. of oil per day. The total depth of this well was 1,298 feet and the sand extended from 1,294-98 feet.

The Simms Oil Co.'s No. 11 Palacious was the second largest well completed in the Randado Poll within the week and was brought in on the same day, flowing 300 bbls. of oil at a total depth of 1,287 feet. The sand was reached at 1,233-87 feet.

Grayburg Oil Co.'s No. 4 Weil in Block 15, Survey 81, was completed as a 150-bbl. producer at a total depth of 1,302 feet.

The Simms Oil Co.'s No. 4 Weil, Block 16, Survey 81, was completed at 170 bbls. at a total depth of 1,301 feet. The sand was reached at 1,297 feet.

Johnson and others completed No. 8 Palacious in Block 19, Survey 291, 150 feet to the west line and 543 feet to the south line, making a 60-bbl. well at a depth of 1,258 feet.

The Grayburg Oil Co. also tested a 150-bbl. well at 1,302 feet in its No. 3 Weil, Block 15, Survey 81, but is drilling deeper in the hope of securing a larger quantity of oil. The Grayburg Oil Co.'s No. 5 Weil tested sand at 1,298 feet in the same block and same survey, and is rigging up for its No. 6 Weil in the same survey, 150 feet from the north line and 150 feet from the west line.

Johnson and others spudded in No. 9 Palacious, Block 19, Survey 291, and have made location for No. 10 Palacious in the same block and same survey.

The Houston Gulf Gas Co.'s No. 12 Palacious is drilling below the 900-foot level and No. 13 Palacious is spudded in to make a deep test in Block 20, Survey 291.

Wheelock & Collins have made location for their No. 6 Palacious, in Block 21, Survey 291, and Bashara & Maddox are rigging up their No. 1 Weil in Block 8, Survey 81. Shankle & Kori are drilling at 500 feet on their No. 1 Weil in Block 9, Survey 81.

The Simms Oil Co. has the derrick up for No. 13 Palacious, and setting casing at 1,296 feet on No. 5 Weil in Block 16, Survey 291. The same company set casing at 1,301 feet on No. 6 Weil, Block 16, Survey 81.

The Andrews Petroleum Co. set casing at 1,285 feet on cap rock and is drilling at 1,290 feet on No. 1 Palacious, Survey 291.

Magnolia Petroleum Co.'s No. 9 Palacious, in Block 6, Survey 291, is below the 1,276-foot level and drilling.

Aviator Pool

The second largest increase in production in individual pools during the past week was recorded in the report of the Aviator Pool in Webb County, where six wells, one of them a gas well of small size, were completed, adding 700 bbls. daily, flush production. Of these, the largest producer was the Crown Central-Rydal's No. 15 Bruni, in Block 17, which was brought in at a depth of 1,732 feet and made 250 bbls. The second largest Aviator Pool well was No. 5 Bruni, of the Ruthada Oil Co., which made 200 bbls. at a depth of 1,740 feet. The Gibson Oil Co.'s No. 10-A Bruni came in at 125 bbls. The Staley-Wynne Oil Co.'s No. 16 Bruni added 75 bbls. per day to the production of this pool at a total depth of 1,735 feet, while No. 12 of the Columbia Oil Corp. flowed 50 bbls. per day. The gas well was that of the Simms Oil Co., no gauge being taken of its No. 4, completed as a small gasser during the week.

The Associated Oil Co. has made location for No. 3 Bruni. The Staley-Wynne Oil Co. has spudded in No. 18 Bruni and Strube & Strube of Corsicana have the derrick up for No. 1 Bruni, in Block 19 of the Bruni tract. The Sun Oil Co. tested dry in No. 5 Bruni, at 1,729 feet, and is now drilling at 2,460 feet. Lawrence Neal and others have a derrick up for No. 1 Bruni, in Block 41, and Thrasher and others are at the 1,200-foot level and drilling in No. 1 Bruni. Harper and others are drilling at 1,000 feet in Survey 833, and Ball-Murchison & Fain's No. 8 Bruni is at 1,400 feet.

Henne-Winch-Fariss Pool

One well was completed in the Henne-Winch-Fariss Pool in Jim Hogg County during the past week and added 500 bbls. daily to the production of that field. The well was the Kitselman & St. Albans No. 44 Holbein, Block 5, Section 11, which came in at a depth of 2,147 feet and will make one of the best wells in that field. The sand was picked up at 2,143-47 feet.

The Kitselman & St. Albans Co. has spudded in No. 45 Holbein, in Block 9, Survey 15, and also No. 46 Holbein, in Block 13, Survey 15, and has the derrick up for No. 47 Holbein, in Block 6, Survey 11.

The Associated Oil Co.'s No. 1 Lopez is rigging up in Block 20, Share 1, 600 feet to the south line and 414 feet to the west line. Humble Oil & Refining Co. has a location made for No. 1 Vela, in Block 5, Survey 5, and the Magnolia Petroleum Co. is rigging up the Killem-Martinez well, No. 13, Survey 276, and has the derrick up for No. 14, in Survey 276, 300 feet east of No. 12.

Carolina-Texas Pool

The Carolina-Texas Field claims the center of the stage this week in the Laredo Field, two wells being expected to come in from the 2,600-foot level from which the discovery oil well is making around 500 bbls. per day.

The Associated Oil Co.-Carson started bailing their offset to the south of the discovery well in midweek. The cores taken after the sand was topped at 2,596 feet were very similar to those taken from the discovery well but showed even better saturation of oil.

The Murchison & Fain No. 1, on the Thompson lease, in Survey 684, is showing up exceptionally well and is expected to become the best producer in the field when brought in and finished. The casing was set at 2,602 feet, 4 feet in the sand, in order to shut out the gas. The well is about 1,000 feet distant from the discovery well, a little west of south.

The Texas Company has picked up the sand in No. 1 Webster, which proved such a disappointment by coming in at 2,600 feet as a small gasser with a trace of oil. The deep pay at 3,000 feet is the same as that from which the No. 5 of the Carolina-Texas Co. is making 40,000,000 feet of petroleum gas. Several barrels of pure casinghead gasoline are secured from the well every time it is opened. The well is in Survey 648, about a mile east of the Carolina-Texas Co.'s No. 5. It is stated that casing will be set and the well made ready to bail within two weeks.

The Associated Oil Co. is drilling at 3,000 feet in No. 2 Webster, in Survey 684, having passed up the gas sand in its quest for oil sands at a lower depth. This company is rigging up No. 1-B Webster in Survey 684. The Houston Oil Co. is awaiting water for No. 1 Barnsley, Block 15, Survey 268, which is standing at 1,800 feet by reason of water shortage. The Moody Oil Corp. is now ready to spud in No. 1 Benavides, having completed a good water well. The well is in the southwest quarter of the northwest quarter of Survey 688, 150 feet from the west line and 150 feet from the south line. Murchison & Fain's No. 1 Webster, located in the southeast quarter of the northwest quarter, Survey 684, is drilling at 2,450 feet. Casing has been set and the well will be bailed the latter part of the week. Hazlitt-Simmons Corp.'s No. 1 Barnsley, southwest quarter of Block 9, Survey, 268, drilling in sandy shale at 1,968 feet. Their No. 1 de la Garza, Block 11, Survey 335, is waiting for water. The United States Gas & Oil Co. is shut down on No. 1 Benavides, in Survey 679, also waiting

(Continued on Page 88)

SOUTHWEST TEXAS WILDCAT CROP MAY DEVELOP REAL OIL WELLS

By B. D. Stevenson

SAN ANTONIO, Tex., Aug. 30.—High spots of wildcatting during the past week to which the eyes of oil men in the Southwest Texas Oil Field have been turned with interest are noted in almost every field of wildcat activity. One of the wells of most interest is L. M. Holden's No. 2, 2 miles south of Crestonia, and 6 miles east of Hebronville in Jim Hogg County, as it is expected that within the week its status as an oil well will have been fixed. Casing was set and cemented the first of the week and the well is now standing and will be drilled in within a few days.

This well is 500 feet west of the Katherin Claus No. 1, the first well drilled by L. M. Holden, began about five years ago, and sidetracked after much trouble with fishing jobs, flooding, etc., until the completion of No. 2, when, it is stated, the well will be continued providing No. 2 warrants it. The depth of No. 2 Holden is now 3,180 feet and a 50-foot gas sand has just been traversed to that level, and it is expected that the well will be a gasser.

Shows Considerable Oil

Another important wildcat well is the Hadley-Marland No. 1 de Spain oil well, in Survey 49, Webb County. This well, which is standing at the present time awaiting drilling of a water well, is of interest because it is in a territory where oil is believed to exist although no deep test has yet been made. The well was spudded in July 30, and is now at 1,200 feet.

The crew has been working day and night for the past week in an effort to harness No. 1 Benavides of the O'Hern-Putnam-Seacord Co. Casing was set at 1,765 feet, but when an attempt was made to drill in the well, the gas pressure was so great that the valves were cut out and the swab lodged in the crown pulley with such force that it was necessary to take the pulley apart to remove it. The well blew about 50,000,000 feet of gas and was spraying oil in large quantities, although no gauge could be taken. The 4-inch choke used will be replaced with a 1-inch choke and after the valves are replaced and damage repaired the well will be gauged as to its merits as an oil well.

In Zapata County, Earl K. Bateman's No. 1 Garcia, in Block 7, Survey 617, is reaming out the hole of an old well below the 2,000-foot level in the expectation of drilling on down to 3,000 feet. This well is in line with production, being north of the Charco-Randado shallow pool, and southwest of the Randado Pool, so that activity on this location will be watched by oil men with great curiosity.

A Distinct Disappointment

The No. 1 Joe Brown well, being drilled by J. W. Allen and the Eagle Drilling Co., in Milam County, on the Brown tract, at Larrieu Gotel, 6 miles west of Rockdale, came in dry within the past week at a depth of 3,200 feet. Drilling on the well, which was first begun in July, 1925, was re-commenced at a depth of 2,314 feet late in June of this year. The completion of this well as a duster is a distinct disappointment to many oil men who had hoped that oil might be found at that depth in the Rockdale section of Milam County.

Will Try a Third Test

Announcement has been made of a wildcat test to be made at a point 16 miles south of San Antonio and 2 miles south of Losoya on the old Corpus Christi road. The well is to be drilled by C. T. Murphy and H. W. Thoekilsen, who have, through the efforts of W. D. Parkinson, San An-

(Continued on Page 86)

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Deep Wells Flow At Sour Lake Pool

Nash Dome Has 1,000-Bbl. Well. Spindletop Adds 13,750 Bbls. Initial Production, Partly Choked in

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 30.—The Spindletop Pool is credited with a daily average of 77,750 bbls. gross output for the week ending August 28. All of it with the exception of about 1,050 bbls. is from the new deep sand section on the outside rim of the old cap rock area. The average for the previous 7-day period was 79,400 bbls. Two of the 20 steel tanks of 55,000 bbls. capacity being erected for the Yount Lee Oil Co. by the Petroleum Iron Works are completed and that company has started filling them. Several more tanks will be finished this week and become available for service.

With additional storage facilities wells now choked down will be opened and it is believed the output will reach close to 100,000 bbls. per day within two weeks. Many claim the potential production is around that figure now. A total of 13,750 bbls. new initial production was added since the last review, but these wells are now flowing through chokers.

Completions in all the pools during the week number 24, of which 3 were dry and one salt water. Nine are bailing at the end of the week. The gross new production aggregates 21,615 bbls. compared with 21,685 bbls. last week.

The features of the week outside of Spindletop were the completion of two flowing wells in the deep sand section on the southwest side of the Sour Lake Pool and a 1,000-bbl. producer off the Nash Dome on the line of Fort Bend and Brazoria Counties, 7 miles southwest of Damon Mound.

The following table shows at a glance the activities for the week in all the Coastal pools:

Pool—	Comp.	Prod.	Gas	Dry	Sw.	Bail.
Batson	1	0	0	0	1	0
Edgerly	0	0	0	0	0	1
Goose Creek	2	215	0	0	0	0
Hull	3	950	0	0	0	2
Lockport	0	0	0	0	0	1
Markham	1	150	0	0	0	0
Nash	1	1,000	0	0	0	0
Orange	4	1,750	0	1	0	1
Pierce Jct.	0	0	0	0	0	1
Spindletop	6	13,750	0	1	0	3
Sour Lake	4	3,800	0	0	0	0
Miscellaneous	2	0	1	0	0	0
Total	24	21,615	1	2	1	9
Last week	26	21,651	0	6	1	5

Spindletop Operations

Early in the week the Rio Bravo Oil Co.'s No. 4 T. & N. O. right of way Spindletop came in flowing 4,000 bbls. from 2,634 feet, 29.3 gravity. About the same time the Gulf Production Co. finished No. 3 Mann at 3,801 feet, flowing 6,000 bbls. initial, 27.7 gravity. The Yount Lee Oil Co.'s No. 5 fee is a 3,000-bbl. well. Paggi Brothers deepened No. 1 Gordon to 3,450 feet and it came back flowing 400 bbls. It was finished originally late last month in the 2,800-2,900-foot level and was credited with initial output of 5,000 bbls. The Atlantic Oil Producing Co.'s No. 3 McLean bailed dry at 2,175 feet and is being drilled deeper. Combest and others' No. 1 Ewing is heading and clearing itself, screen being set at 3,350 feet. The Sun Oil Co.'s No. 3 McLean is swabbing at 3,500 feet. The Gulf Production Co.'s No. 2 Oakwood is bailing at 2,600 feet, as is W. C. Turnbow's No. 1 Banks at 3,400 feet. These are all on the west side of the old cap rock dome.

There are now 38 producers in the deep sand region, with 40 wells drilling and 21 rigs in, derricks standing or locations made. One month ago there were 22 producers, 26 wells drilling and 12 rigs, derricks and locations. The new production developed during August is 59,800 bbls. compared with 40,100 bbls. during July. During the last week of July the daily average production was 55,600 bbls. which has increased to 77,750 bbls. for this week. Practically all the activity is confined to the west side, covering less than 25 acres to date. The sands are from 2,800-2,900 to 3,650 feet.

The status of the drilling wells at the close of the week is as follows: On the Weed tract, the Gulf Production Co. is drilling No. 4 below 3,600 feet and No. 5 around 3,010 feet with a location for No. 6. On the Mann, same company's No. 2 is drilling deeper at 3,176 feet. No. 4 is at 2,980 feet. On the Oakwood Realty Co.'s tract, the Gulf Co.'s No. 3 is drilling around 2,775 feet and No. 4 at 2,650 feet with a location for No. 5. Locations have been made by the Gulf Co. for Nos. 2, 3 and 4 on the Jack-Duff 2 acres. No. 1 Jack-Duff is the extreme south producer. Gulf Co.'s No. 2 Roche is deepening at 3,300 feet and No. 3 is drilling around 3,290 feet with No. 4 Roche at 2,778 feet. The Sun Oil Co.'s No. 4 McLean is at 2,980 feet, with derricks up for Nos. 6 and 7 and a location made for No. 1 Price. On the Texas and New Orleans Railway right of way, (Southern Pacific Railroad) the Rio Bravo Oil Co., a subsidiary, is drilling No. 6 at 2,465 feet, No. 7 at 2,819 feet, with locations made for Nos. 8 and 9. On the McLean lease, the Atlantic Oil Producing Co.'s No. 3 is drilling around 2,980 feet, No. 4 is deepening from 2,175 feet, No. 5 is around 3,160 feet and No. 7 at 2,235 feet, with locations made for Nos. 8 and 9. The Yount Lee Oil Co. is drilling Nos. 4-B fee and rigging Nos. 5 and 6-B fee. It is also drilling No. 2-B Trembly, 8 Gladys and 10 McFaddin. The Magnolia Petroleum Co. has a location for No. 1 on its tank farm, south of production.

The above list comprises the operations of the major companies in the pool. Other tests drilling are as follows: Deutser Oil Co.'s No. 1 Scharbaur deepening around 3,650 feet. Turnbow Oil Co.'s No. 1 Weed, drilling around 3,350 feet. Paggi & Co.'s No. 2 Gordon at 2,675 feet and No. 3 Gordon at 3,275 feet. Wilson & Broach's No. 1 Weed is around 2,350 feet; Ward & Wise's No. 1 McFaddin at 1,180 feet and Walker Oil Co.'s No. 1 Quinn at 2,280 feet. The Grayburg Oil Co.'s No. 1 McLean is drilling around 2,165 feet. Hines' No. 1 Ewing is at 1,235 feet. Pork and Telshaw's No. 5 Trembly is at 2,455 feet. The Spindletop Gusher Oil Co.'s No. 1 Rush is below 1,460 feet. The Seven Oil Co.'s No. 2 Trembly is around 1,600 feet. The New Beaumont Oil Co.'s No. 1 Garrick, north of production, is shut down temporarily. W. B. Flynn has a location for No. 1 Gladys. Rush and Puttman's No. 1 Hammond is at 1,524 feet. Mark Kleedon has a location for No. 1 Gladys and the Hyland Oil Co. a location for No. 1 McFaddin.

Other Completions

Early in the week the Humphrey Corp. finished No. 1 Oxford-Kelly in the deep sands at Sour Lake, flowing 2,200 bbls. initial at 3,784 feet, 37.5 gravity oil. The Orange Petroleum Co.'s No. 1 Merchants there started off at 1,200 bbls. from 4,360 feet, 28 gravity oil. It will be noted that the gravity is lower than the usual run, which is between 34 to 37 Baume. On the north side, The Texas Company's No. 303 fee is good for 100 bbls. at 1,650 feet, and the Lake View Oil Co.'s No. 49 Hardin is credited with 100 bbls. on the jack at 1,300 feet. Later, the Orange Petroleum Co.'s well increased to 2,000 bbls.

Operations in the deep sand are increasing, with nine wells drilling and four rigging or located. The Humphrey Corp.'s No. 2-B Bashara is around 1,480 feet and No. 3 is drilling at 980 feet with No. 1-E located. The Gulf Production Co.'s No. 1-D McLean is around 4,090 feet with No. 1 Cora Jackson rigging and locations made for Nos. 2 and 3 Jackson. The Sun Oil Co.'s No. 1 Libby is shut down at 4,850 feet. Eunice and others set casing at 3,650 feet in No. 1 Eunice at 3,650 feet. Gordon, Farrell and Dickson's No. 1 Schaffers is below 3,970 feet. On the north side, the Humble Oil & Refining Co.'s No. 34 Hardin will be deepened. The Lake View Oil Co. has a location for No. 51 Hardin.

Increased Work

The Pierce Junction Pool, 8 miles south of Houston, is another spot where work is picking up, due to the wells completed by the Rio Bravo Oil Co. and Bashara Oil Co. on the north flank of the dome. The Bashara Co.'s well, which came in last week flowing 2,500 bbls. from 3,610 feet, is still holding around 1,000 bbls. per day. Locations have been made for Nos. 2 and 3 Bender by the Bashara Co. and the Marland Oil Co. is drilling another offset in No. 1 Prudential at 655 feet, the Gulf Production Co. locations for Nos. 1 Jones fee, and No. 1-A Jones as offsets. To the west, the Rio Bravo Oil Co.'s No. 3-P Settegast is around 3,625 feet and No. 3 P. F. Settegast is at 3,800 feet with the casing set. Nos. 4 and 5 are locations. The Texas Exploration Co.'s No. 10 Dooley is around 2,700 feet. On the east flank of the dome, or the old part of the pool, H. R. Cullen is bailing No. 7 Howe at 4,025 feet, following a work over. The Navarro Oil Co.'s No. 3 Cain is fishing for the liner and is rigging No. 1 Humble-Dooley. The Gulf Production Co.'s No. 19 Taylor is drilling below 3,100 feet.

Orange Pool

The Humble Oil & Refining Co. worked over No. 4 Winifree in the old part of the Orange Pool at 3,575 feet. It responded flowing 1,600 bbls. This is the third time the well has been either worked over or drilled deeper and each time the production was revived. It was drilled originally four years ago. The Kishi Development Co.'s No. 6 McGuire bailed salt water at 3,450 feet and is being drilled deeper. It is on the east side of Cow Bayou. The Texhoma Oil Co. is bailing Nos. 9 and 16 Chesson, after working them over. The Peer Oil Co. abandoned No. 1 Mecom at 3,300 feet, following an unsuccessful fishing job for drill pipe stuck in the hole.

The Ryeade Petroleum Corp. is rigging No. 2 in Cow Bayou on State land. No. 1-C State land is sidetracking at 3,150 feet. The Gulf Production Co.'s No. 1 McGuire is drilling deeper at 3,355 feet. The Sun Oil Co.'s No. 2 Brown in the southeast end of the pool is sidetracking at 4,448 feet. In the old part of the pool, the Rex Petroleum Co.'s No. 2-B Carbello is resetting strainer at 4,000 feet. The hole sanded. The Brownie Babbittee Oil Co.'s No. 3 McLean is drilling around 3,245 feet. The Humble Oil & Refining Co.'s No. 27-B Chesson is around 3,500 feet.

In the Goose Creek Pool, the Gulf Pro-

(Continued on Page 116)

MALJAMAR WELL IN LEA COUNTY, WILL SETTLE AT 250 BBLS. A DAY

By Special Correspondent

ARTESIA, N. Mex., Aug. 28.—The Maljamar Oil & Gas Corp.'s No. 1 Baish in Section 21-17-32, Lea County, put 350 bbls. of pipeline oil into the tanks Tuesday, after tubing had been run to the bottom of the hole. The oil is coming through the 6-inch casing, pressure being supplied by the gas through the tubing. Tuesday's test also showed the well to be making 200 bbls. of water, this apparently coming from the bottom of the hole. From all indications it will be necessary to cement the bottom of the hole as the water apparently is coming around the lead plug. Pipeline men, who have gauged the well, believe settled production will be about 250 bbls. The Maljamar Corp. has spudded in its No. 1 test on the Grace Mitchell permit in the SW cor. of Section 5-17-32. The Ohio Oil Co. has spudded in its No. 1 on the William Mitchell permit in the NW Section 18-17-32, being delayed on its No. 1 on the Pearl Miller permit in Section 35-17-32 on account of engine parts.

In Section 22-17-31, the Skelly Oil Co.'s No. 1, 5 miles west of the Maljamar, is down 3,310 feet in a gray lime. This is the same lime column encountered in the Maljamar from 2,900 to 4,100 feet, being broken by streaks of anhydrite, shale and sand, from which the various showings and production were obtained. One of these showings, looked for at 3,240 feet, and correlating with the Maljamar's 3,600-foot showing failed to materialize. Production in the Skelly well is looked for between 3,600 and 3,700 feet.

West of the Skelly test the Wooley-Jones No. 1 on the Beeson permit is shut down at 3,140 feet, awaiting engine parts.

A location has been made in the SW SW of Section 34-17-33, for Henderson, Dexter & Blair's No. 1 and a steel derrick is being moved to the lease.

Treat & Co. are working out a location which will probably be in the NE quarter of Section 19-17-33. On the cap rock the Inglefield and others' No. 1 in Section 4-17-34 is drilling with a rotary, the bottom of the hole being 1,250 feet. This equipment will be moved to the Cap Rock Oil & Gas Corp.'s No. 1 in Section 11-16-32 for the drilling of the upper sands and the red beds.

Southwest of the Maljamar the No. 1 of Bruce Sullivan in the SE of Section 1-18-31 is drilling in the salt at 1,570 feet, considerable gas having been encountered in a lime shell at 1,550 feet.

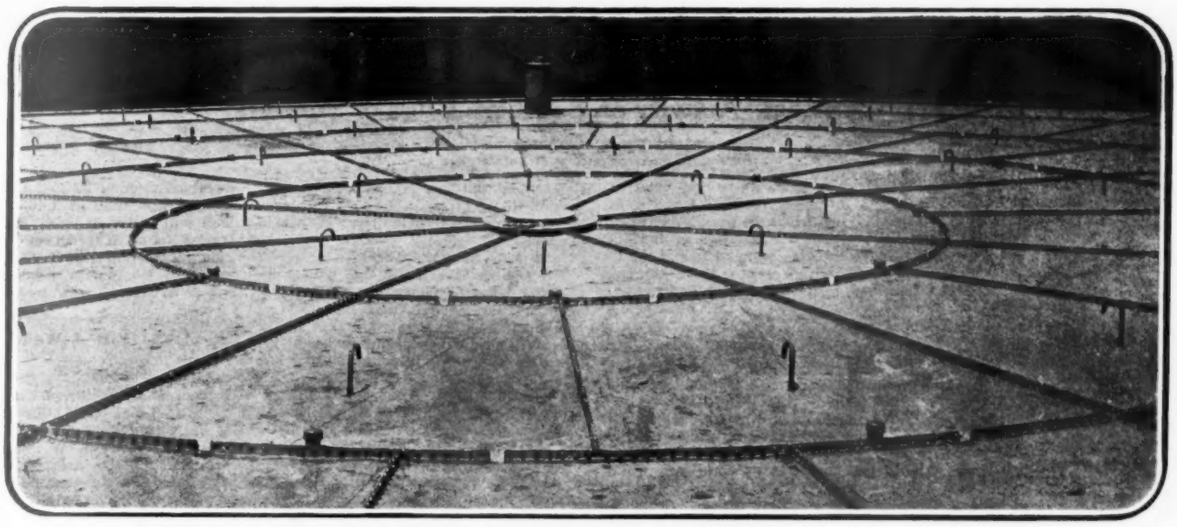
The south and southeast trend from the Lea County producer, is attracting attention due to the bringing in of the Dixie's well in southeastern Upton County, which is reported good for 8,000 bbls.

In the Artesia Pool the Pueblo Oil Co. drilled into 40 feet of sandy lime in its No. 1 in the NE cor. of Section 33-17-28 at a depth of 735 feet, which carried considerable oil. It is believed the pay is good for from 6 to 7 bbls.

The Navajo Oil Co. is preparing to start its No. 2, a steel rig now being erected on a location which is a southeast offset to its No. 1 producer in Section 28-17-28.

The Ohio Oil Co. has made a location on its Toomie-Allen lease, this being the No. 7 and located in the SW cor. of the SE of Section 28-18-28. This

(Continued on Page 114)



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gives full protection against fire & evaporation

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Wildcatters Testing La Barge Field

Hope to Prove Connection With Big Piney Area 10 Miles Northeast. Activity on Southern Edge of Sunburst

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., Aug. 28.—In Wyoming the wildcatters are interested in the southwest corner of the State where the La Barge Field has taken on new activity. The hope of the wildcatters there seems to be to extend the La Barge Field northeast to junction with the Big Piney Field. The Big Piney is about 10 miles northeast of the LaBarge Field. The new strike by M. Guiterman at Cody is pumping oil at the rate of 18 bbls. daily and this is also interesting to the wildcatters as the well is a shale producer and about 1,100 feet deep.

The main wildcat activity in Montana is centered about the southern edge of the Sunburst Field. The Cat Creek Field is doing some wildcatting around the edge, but Sunburst is the main attraction.

Considerable drilling is being done in southern New Mexico, but the area in the northwest part of the State, including San Juan County, the Rattlesnake, Hogback and Table Mesa fields is the district being discussed in the main.

The San Juan Basin includes an irregular area about 100 miles long and 75 miles wide, lying in San Juan, McKinley and Rio Arriba Counties. The surfacing is mainly Tertiary or Quartenary wash but the Cretaceous is only a short depth below and the Tocito formation and sand is usually less than 2,000 feet on the structures that have been drilled.

One of the largest owners of lands in the San Juan Basin is Paul S. Ache of Denver, who has had geologists in that country for some months and as a result of their findings has secured many thousands of acres of Government permits and State leases which holdings are checkerboarded in blocks extending from the southern boundary of San Juan County north to the Colorado State line, a distance of about 75 miles and with a general width of about 30 miles.

Denver promoters are arranging a meeting of the oil and mining interests in that city to be held sometime in September. The plan is to merge the mining and oil interests of the West for the greater good of both and the benefit derived by the combined efforts of the two industries.

Utah Operations

In Utah, the Frank Shafer well, the discovery well on Cane Creek Dome below Moab, struck a conglomerate sand at 2,623 feet and found more oil and gas, though nothing like the show at 2,000 feet. The well is drilling ahead after passing out of the sand at 15 feet and is now in black shale with about 200 feet of oil in the hole. The crude is a good grade and is not the black oil that is found in Wyoming usually in this formation.

The wildcat drilling on the Shafer Dome about 5 miles south of the Cane Creek well by the Utah Southern Oil Co. and the Midwest interests, is at 2,000 feet and in black shale. This well is expected to have the sand almost any time and the operation is being watched closely.

The Canyon well of the Utah Southern Oil Co. in San Juan County, Utah, is at 1,050 feet and is setting casing.

In the LaBarge Field, the Reese Oil Co. on Section 27-27-113, has reached a sand at 1,400 feet and is drilling in with oil showing.

The Texas Company's well in the Sand Draw Field in Fremont County, Wyoming, Section 15-32-95, found another heavy flow of gas at 3,006 feet and went on to 3,009 feet when the pressure cleaned the hole, although a solution of barium sulphate was being used to help hold in the gas. This well is now below the gas horizon where all other wells had to stop and is making a test of the sands below the Frontier.

Salt Creek Completions

In the Salt Creek Field, the Midwest Refining Co. completed a producer good for 435 bbls. on Section 26-40-79, on the lease of the Midwest Oil Co. This well is in the first Wall Creek sand at 1,110 feet. The Midwest Oil Co. and the Wyoming Associated Oil Co. drilling joint wells on Section 13-40-79, found production at 1,985 feet that will do 20 bbls.

The Salt Creek Consolidated Oil Co. completed a second Wall Creek sand well on Section 31-40-78, at 2,050 feet that will do 25 bbls.

The Wyoming Associated Oil Co. drilled a second sand producer in on Section 30-40-78 at 2,076 feet. The Wyoming Oil Fields Co. has a 10-bbl. producer on Section 26-40-79 at 1,150 feet.

The Union Pacific Railroad has passed an oil electric locomotive through Cheyenne and southern Wyoming, bound for the logging country in California. This new type of engine has a tractor pull of 600 horsepower. The cost of operation is 1.2 cents per mile and it emits no smoke or sparks which factor is an essential one in the timber country during the dry season. It uses a heavy oil in the semi-diesel type of internal combustion engine and this engine is direct connection to a generator which furnishes the electric current that drives the whole machine.

Sunburst Field

Dr. George Otis Smith has stirred up a small tempest among the small operators by a statement that the price of Sunburst crude is too low and that the operators should be careful in producing oil at this price. It is contended by some small operators that Government agents are discriminating against small operators in recent regulations by the Bureau of Mines regarding the drilling of wells in Sunburst which regulations they say are unnecessary except over a very small part of the field, yet the Bureau of Mines is endeavoring to make the ruling mandatory over the whole area, adding to the overhead of the little fellow. Some of the oil men at Sunburst say they are satisfied with present markets, as while the quotation is low they are receiving a good premium over the present quotations and in some cases it is reported the prices being paid are about equal to the Cat Creek crude prices. The market for Cat Creek crude is now at $2.40.

Montana Operations

In the Sunburst area in northern Montana, the Fulton Oil Co. and the Mouse River Oil Co. are drilling on the east side of the Sunburst Field in what is considered wildcat territory and the two wells are expected in the Ellis sand next week.

The California Co. has a new producer on Section 22-35-2 finding the pay in the Ellis sand at 1,465 feet and the well will make 40 bbls. The Ferdig interests found a producer good for 150 bbls. on Section 1-34-2. The Swift Current Oil Co. has a producer good for

(Continued on Page 129)

IMPERIAL GETS GASSER SOUTH OF COUTTS BUT WILL DRILL DEEPER

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ont., Aug. 28.—In the border fields of southern Alberta, some 25 miles east of Coutts, Imperial Oil, Ltd.'s Erickson Coulee No. 1, LSD 13, Section 8-1-12w4, has struck a large gas flow, estimated at 7,500,000 feet a day, at 2,376 feet depth. The test was drilled to 2,376 feet with rotary tools, and had just changed to standard, and was bailing out the rotary mud preparatory to drilling deeper when the gas came. It is dry gas, similar to that in the Rogers-Imperial gasser on Section 29-1-11w4.

The Erickson Coulee location is about a half-mile north of the Montana boundary, and 8 miles west of the Rogers-Imperial. The latter got its main gas production, estimated around 50,000,000 feet a day, at 2,638 feet. The Erickson Coulee location, is, however, on a separate though similar structure. The gas flow will be cased off and the test carried deeper for oil. On account of the heavy gas flow and the small size of the hole, efforts to deepen the Rogers-Imperial had to be abandoned and the well finished as a gasser, and capped. The Imperial-Erickson Coulee is in good shape for a deep test, with a 10-inch hole at 2,376 feet. The Erickson Coulee structure is one of a number of similar structures running northeasterly from the Sweetgrass uplift.

Urban Oils, Ltd., Section 4-1-15w4, near Coutts, whose derrick was recently burned, is working on a new derrick and will rig up as soon as the new equipment arrives. The test, which is at 3,042 feet, will be continued as a deep test of the border field. It is reported that Senator E. Michener and associates of Red Deer, Alta., will drill a test on the Alberta side, about 6 miles east of Coutts, and just north of the international boundary.

High Grade Crude Production

In the Turner Valley Field, southwest of Calgary, Home Oil Co., LSD 10, Section 2-19-2w5, at 2,005 feet has what looks like a fair production of 45 degrees crude. The test got a little gas and traces of oil at 1,950 feet, and continued drilling to 2,005 feet, when oil production was encountered. Bailing tests indicated a potential production of 50 bbls. a day. The test is being gradually deepened into the sand and drilling will be continued till the maximum flow is reached, when casing will be put down to the bottom and the well put on the pump. The test is the first in the Turner Valley Field to get a commercial production in the Dakota sand. The crude is a different product from the 73 degrees crude naphtha encountered in the Royalite No. 4, and McLeod No. 2 producers. In the same portion of the field, Advance No. 2, LSD 14, Section 20-19-2w5, is drilling around 1,400 feet, running double tour, and should reach the same producing horizon in another week's drilling. The Advance has encountered light showings of oil at this depth but no commercial production.

Long String of 10-Inch

Great West Oil Co.'s No. 1, SE quarter, Section 7-20-2w5, is reported drill-

(Continued on Page 82)

DEATH OF J. W. M'CARTY

James W. McCarty, general superintendent and director of the Solar Refining Co., Lima, Ohio, died on August 5 of heart trouble at his home in Lima.

In 1886 with J. W. Van Dyke, now president of the Atlantic Refining Co., and John G. Neubauer, former president of the Solar Refining Co., he came from the Long Island refinery of the Standard Oil Co. to supervise the construction of a refinery at Lima to furnish petroleum products to the surrounding territory. Having been with the Solar for nearly 40 years the plant was almost entirely the product of his labor and supervision and today is one of the most modern in the country.

The remaining associates of many years greatly mourn his death and the company has lost a most faithful and hard working employe and the directorate a valuable counselor.

As a member of the Christ Church Episcopal in Lima he was most devoted, always ready to answer the call of duty and to offer his services to the practical needs of his church.

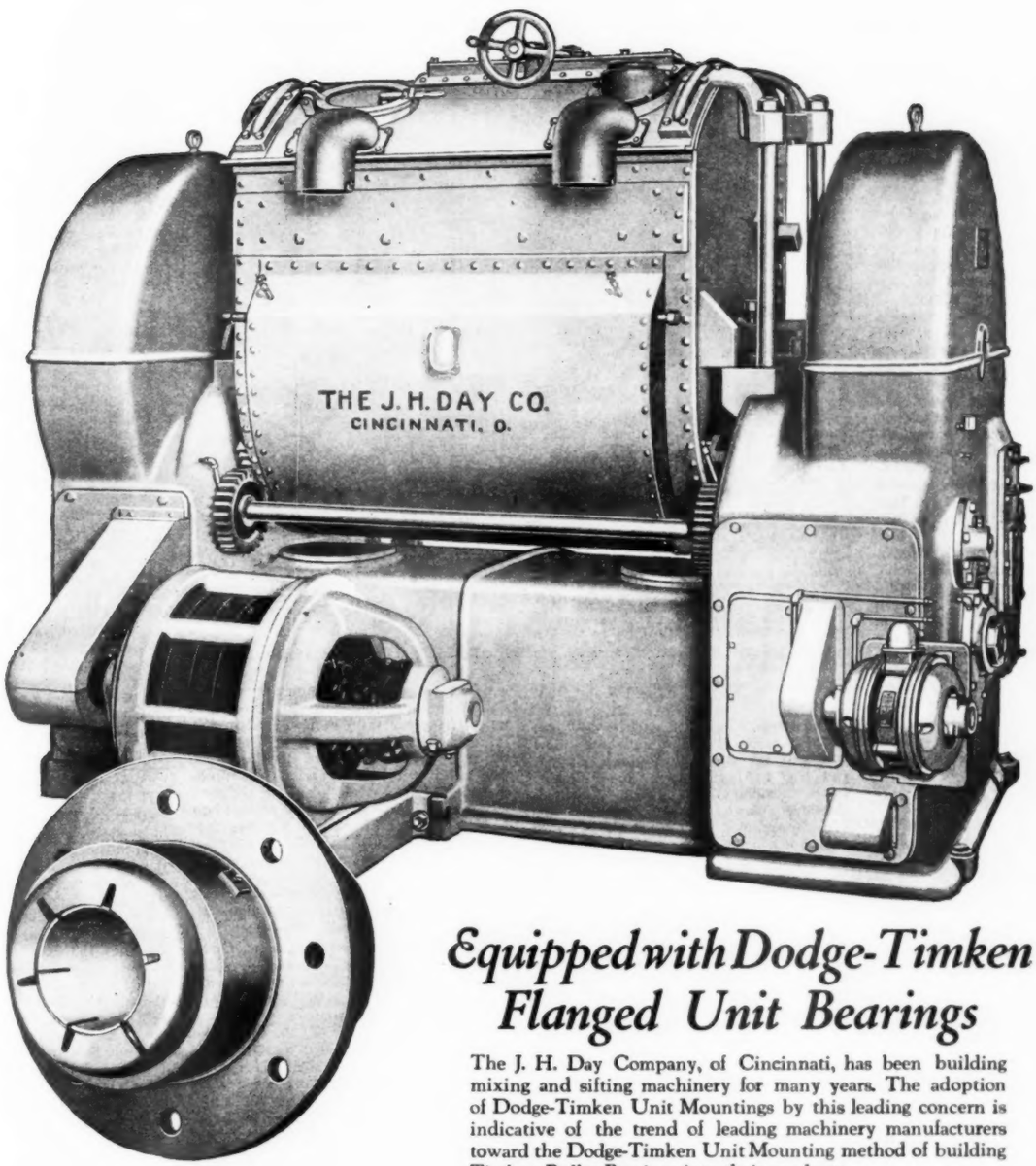
He leaves a widow and a son, James W. McCarty, who is with the Atlantic Refining Co. of Philadelphia, Pa.

VENEZUELA PRODUCER

CHATHAM, Ont., Aug. 28.—An announcement from Montreal states that the Maxudian Petroleum Corp. has received word of the completion on its property in Venezuela of a producing well with an estimated flow of 7,500 bbls a day. The well was drilled by the Gulf Oil Co. and Frankel Brothers. It is located in the Lake Maracaibo district, south of the famous La Rosa Field and opens up a new field between La Rosa and La Gunillas. The property is leased on a royalty basis, in line with company's policy of leasing all acreage to drilling companies for development. The well came in at a depth of 2,376 feet, after penetrating the sand for 22 feet, indicating a prolific yield. The well caught fire and burned for four hours. The rig was destroyed but the derrick remained standing.

DUTCH FAVOR THEIR OWN

According to an Exchange telegram from Amsterdam, an important decision has been taken by the East Indian People's Council regarding the oil fields in the East Indies. The council has approved an agreement with the Niam Oil Co., in which the Government and the Bataafsche company are participating, in regard to the fields on Boenjoe Island, near Borneo. On the other hand, the council has rejected a proposal to grant rights for exploration and working of extensive territories in Palembang, Rembang, Semurang and Madura to the Dutch Colonial Petroleum Co., which is a subsidiary of the Standard Oil Co. Most probably the new proposals will lead to the granting of these rights to Niam. At all events, the decision is in favor of the interests of the Royal Dutch Co. in the East Indies.



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Superior Zone Is Proved Productive

Southwest Extension of Huntington Beach a Quick-Drilling Area Due for Rapid Development. Drawing on Stocks

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 28.—The outstanding development of interest in California this week was the completion of two wells in the southwest extension of the Huntington Beach Field, particularly E. J. Miley's No. 1 Pacific Electric, which came in flowing 420 bbls. of 20.1 gravity oil from 3,108 feet. The importance of this completion is due to the fact that it definitely proves up the Superior zone as commercially productive and, while the initial completion in this area was a satisfactory one, some little doubt has existed as to the productivity and scope of the sand in the southwest extension. Miley's new well does not extend the limits of the field to any appreciable extent but it indicates that there is some flush production to be secured and this will undoubtedly result in a fast race down to the pay.

The Julian Petroleum Co.'s No. 1 Lambert followed Miley's No. 1 Pacific Electric into production the following day and, although the former was the second well started in this area, drilling was temporarily suspended due to the work being done in the northwest extension at Long Beach. As soon as work eased up in this area, the Julian Petroleum Corp. returned to Huntington Beach and resumed drilling on No. 1 Lambert after a suspension of several weeks. In the meantime the Superior brought in No. 1 Jones, which was directly responsible for the initiation of the present large drilling program, which covers somewhere around 50 wells. No. 1 Lambert, of the Julian Co., is listed as a 310-bbl. well from 3,106 feet, the oil testing 19.8 degrees and showing a cut of 1.2 per cent. That the completion of this well has been anticipated for some time is evidenced by the fact that the company had previously started derrick construction for new holes on the Davis, Stein, Treat and Plavan leases.

The McKeon Oil Co.'s No. 1 Huntington should, barring the development of mechanical trouble, be the next completion registered in the southwest extension, as the Superior sand was picked up at 3,050 feet and a string of 11-inch cemented at 3,048 feet. It is quite likely that drilling will be resumed within the next few days and the well brought into production before the close of the current week doing somewhere around 300 bbls. daily. The Superior, Standard, California Petroleum and George F. Getty are engaged in a rather spirited race with the Standard having a slight edge over the field. This company has five wells already on the way down to the pay and will spud in two more, No. 1 Crawford and No. 5 Huntington, within the next 48 hours.

Superior Drilling Four

The Superior, in addition to its extension well, No. 1 Jones, which is pumping 198 bbls. daily, has four wells headed downward at the present time and expects to spud in No. 1 Cheadnow and No. 1 Nixon within the next few days to be followed by No. 1 Schwartz, No. 1 Gillette and No. 1 Steaver. The California Petroleum is running four strings of tools on the McIntyre, Plavan, Tubach and Turner leases and has just about completed the preliminary work of rigging up No. 1 Sandberg. George F. Getty has just passed the 2,650-foot level in No. 1 Coffin and, although this is the only well which he is drilling in the extension at the present time, No. 1 Johnson, and No. 2 Coffin will be started during the coming week.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, and Location—	S-T-R	Depth	Status
Union, No. 1 Bryant, Seal Beach	2- 5-12	5,220	br. sh. drilling
Bellflower, No. 1 Blythe, Bellflower	.....	rig	spud soon
Marine, No. 1 Strong, Bellflower	24- 3-12	3,700	gr. sd. drlg.
Feather & Preston, No. 1 Blinn, Clearwater	16- 3-12	3,146	gr. sd. drlg.
Union, No. 1 Howland, El Segundo	24- 2-15	4,760	sd. sh. drlg.
Smith Pet. Co., No. 1 Johnson, Hawthorne	17- 3-14	3,250	hd. sd. drlg.
Associated, No. 1 Cypress, Inglewood	34- 2-14	2,800	sh. gr. sd. dlg.
Johnson, G. W., No. 1 Martin, Manhattan	30- 3-14	5,315	abandoning
Julian, No. 1 Trust, Manhattan	19- 3-14	5,440	sd. sh. drlg.
Milham Exploration, well No. 2, Del Rey	34- 2-15	5,975	sd. sh. drlg.
Barnsdall, No. 1 Merlo, Puente	35- 1-11	4,240	conglm. drlg.
Petroleum Sec., No. 1 Semon, San Fernando	14- 2-16	3,390	gr. sd. fishing
Standard, No. 1 University, San Fernando	15- 2-15	3,716	hd. sd. drlg.
Standard, No. 1 Austin, Topango	11- 1-17	1,087	hd. sd. drlg.
Union, No. 1 Saugus, Saugus	15- 4-16	3,816	br. sh. drlg.
Union, No. 2 Olinda, Orange County	10- 3- 9	4,892	unfavorable
Halfhill Packing Co., No. 2 Jeffries, Burbank	2- 1-15	991	hd. sd. drlg.
Calif. Pet. Dev. Co., No. 1 Spitz, Capistrano	2- 8- 8	120	gr. sd. drlg.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Marland, No. 1 Williams, Santa Barbara	32- 9-32	4,286	test unsatisf.
Marland, No. 1 Lazard, Kern County	27-26-20	5,480	abandoning
Union, No. 2 Theta, Kern County	23-28-20	139	survey hole
Schwartz, A. G., Well No. 1, Rosedale	25-29-26	4,825	hd. sh. susp.
Taylor, W. W., No. 1 Clovis, Fresno County	5-13-22	1,062	hd. sd. drlg.
Associated, No. 2 Huron, Fresno County	20-19-17	rig	survey hole
Fresno United, Well No. 3, Raisin City	23-15-18	3,490	suspended
Federal Explrtn., No. 1 Kinsella, Tulare County	15-22-24	1,955	cemt. 12½-in.
Bolsa Chica, Well No. 1, Kettleman	30-23-19	2,258	sd. bl. sh. dlg.
Marland, No. 1 Elliott, Kettleman	12-22-17	5,570	fishing
South Coalinga, Well No. 1, Kettleman	35-24-19	1,260	bl. sh. drlg.
Shell, No. 1 Berlywood, Moorpark	32- 3-20	5,405	unfavorable
C. & M. O., No. 1 Hobson, Ventura County	22- 3-24	5,668	sd. sh. drlg.
Milham Explrtn., No. 1 Sexton, Ventura County	19- 3-22	6,017	set 6¼-in.
Milham Explrtn., No. 1 Buttonwillow, Kern Co.	8-28-23	....	location
Standard, No. 1 Palmer, Santa Barbara	13- 9-23	2,816	sd. sh. drlg.
Standard, No. 1 Camarillo, Ventura County	.....	2,102	congim. drlg.
Standard, No. 1 McGrath, Ventura County	18- 2-22	1,296	survey hole
Pan American, No. 1 White, Monterey County	27-23-12	2,168	sd. sh. drlg.
Pyramid, No. 1 Trescony, Monterey County	26-21- 9	2,690	sd. bl. sh. dlg.
Shell, No. 1 Murphy, Petaluma	29- 5- 6	2,306	hd. sd. drlg.
Milley Explrtn., No. 2 Casitas, Ventura County	7- 3-25	430	hd. sd. drlg.
Rio Grande, No. 1 Canet, Ventura County	9- 3-23	1,122	gas show drlg.
Sentinel, No. 1 Tejon, Ventura County	5- 5-17	562	suspended
Woodward & Sheedy, No. 1 Famosa, Kern Co.	29-27-26	rig	rigging up
Henderson Pet., No. 2 Piru, Ventura County	.....	510	hd. sd. drlg.

A Quick-Drilling Field

The completion of the two new producers in the extension this week indicates the rapidity with which wells can be drilled into production and it is quite likely that three or four more will be finished within the next few weeks. Additional producers should start coming in quite regularly about September 15, after which time weekly completion reports should contain from 5 to 10 new wells, unless a deeper sand is developed in the meantime and operators decide to drill for this higher production. In this event the initial completion period will probably be around the early part of October. Wilhoyte & McCoy, who are reported to be financed by William G. McAdoo, former secretary of the United States Treasury, have taken out a permit for a new well to be located on Eighteenth Street between Walnut and Olive and, while material is not yet on the ground, the rig stakes have already been driven.

The Petroleum Securities has just spudded in No. 1 Gross, and will follow a similar procedure with No. 1 Tubach and No. 1 Montgomery. The Wilshire and a subsidiary company, the Ambassador, are running three strings of tools and are expected to spud in another hole within a short time, as rotary equipment is now being rigged up. The former's No. 1 Townsite, which is being carried down in search of a deeper horizon, has just passed the 3,850-foot level and, since it has less than 1,000 feet to go, it is quite likely that something definite will be ascertained within the next 30 days. The latest company to enter the extension is the United, which has a location staked for their No. 1 Ward.

The Standard finished a new well, No. 32, on Lease A in the older section of the Huntington Beach Field and returned another to production, after redrilling and deepening it. The latter was No. 17 on Lease B, just north of the town lot area, which was redrilled and deepened to 4,714 feet, from which depth it is pumping 115 bbls. of 19.1 gravity oil daily. The new well finished, No. 32 on Lease A, is making 170 bbls. of 18.1 gravity oil from 2,783 feet and, while the output is cutting around 25 per cent, it may clean up after the well has been on production for a few days. No. 48, on Lease B, which made a preliminary flow a few weeks ago, has cleaned up to such an extent that it is now being listed as a satisfactory completion. The present output is 122 bbls. of 24.6 gravity oil from 4,394 feet, the hole having been plugged back from 4,442 feet. The California Petroleum has a rig up for No. 2 Buck in the northeastern part of the field approximately 300 feet north of No. 1 Buck, the extension well which is flowing 270 bbls. of clean 21.2 gravity oil daily and, while a location has been staked for No. 3 Buck, it is not likely that the company will start drilling on this test previous to the completion of No. 2, or at least until such time as it is possible to correlate the logs of Nos. 1 and 2.

One Completion at Long Beach

There was only one well finished in the Long Beach Field during the past week and as a result field production continued the downward trend started several weeks ago. An analysis of present conditions in the extension indicates that we can anticipate the completion of new wells for some time yet, although the number and initial production will be considerably lower as might be expected in any district following the flush production period. Both the upper and lower horizons in the extension are fairly well depleted and, while a few flowing wells may be finished from time to time, they will be the exception rather than the rule.

The new well added this week was Craigen & Gray's No. 1 Cerritos, which was finished in the McKeon zone doing 235 bbls. from sand at 4,820 feet. The Gallagher Trust's No. 1 Cerritos was finished early in the week at 4,775 feet and, although it started off flowing at the rate of 200 bbls. a day, it was killed in order that a liner might be inserted. The Ambassador Oil Co. put its No. 1-A Cerritos on a pumping test in the upper zone at 4,375 feet and, notwithstanding the fact that every effort was made to stimulate production, the well has so far failed to respond to this treatment. Although the Marine is abandoning its deep test in the extension, No. 54 Cerritos, as a dry hole at 5,608 feet, Walter P. Temple has not shown any disposition to suspend operations on his No. 5 Cerritos, which is being carried down in search of a third producing horizon. Temple's test has just passed the 5,550-foot level and, although there have been no favorable indications since passing 5,000 feet, it is understood that this well will be carried down as a conclusive test before abandoning.

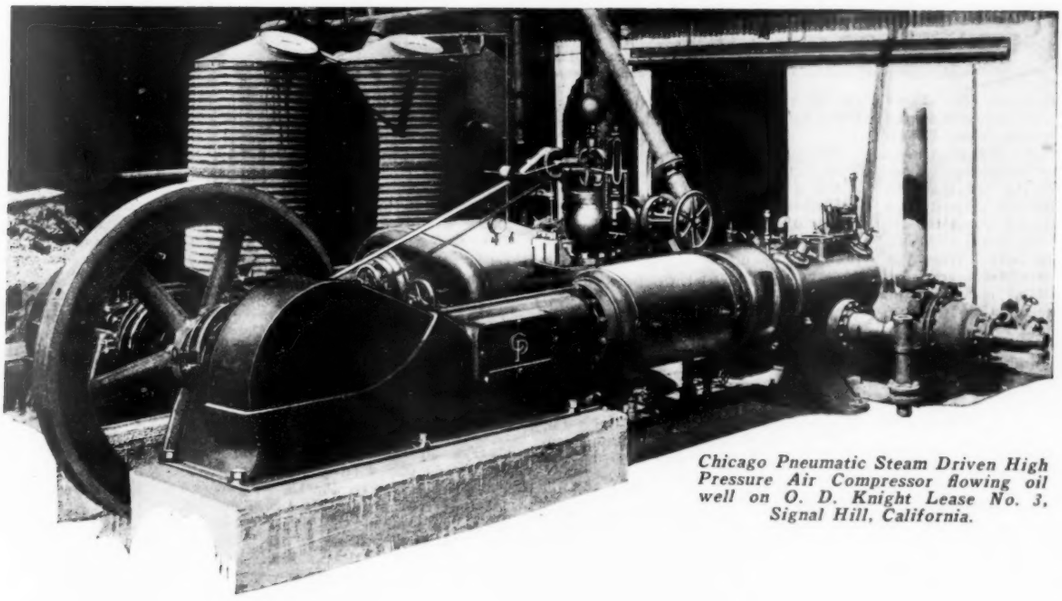
Zoning Regulations Checked

Plans to pass zoning regulations intended to check oil development in the area east of Long Beach opened up by the Marland's discovery well, met a temporary check in the city planning commission. Promises attributed to C. H. Windham, former city manager, that there would be no city opposition to drilling in the inhabited area where drilling now looms and advices of attorneys that zoning cannot be applied to unsettled districts apparently affected the decision of commissioners to postpone action. A motion of Commissioner Ray O. Baldwin that unzoned areas of the east side be zoned as residental property failed for want of a second. After further debate the planning commission adjourned until Thursday noon, when another effort will be made to outline legislation setting up a barrier against the oil derricks. With the Standard Oil Co. of Califor-

(Continued on Page 78)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Yr. to Date	Same Time Last Year
Crude oil	163,360	23,337	77,163	11,023	8,041,589	10,214,612
Fuel and gas oil	372,533	53,219	235,376	33,626	6,378,042	237,873
Gasoline	76,831	10,976	236,042	33,720	4,691,510	5,556,753
Tops	.....	.....	.....	.....	74,619	402,994
Coastwise:						
Crude oil	459,265	65,609	344,480	49,211	15,319,495	21,103,641
Fuel and gas oil	265,470	37,924	241,189	34,456	7,173,265	7,524,235
Gasoline	168,959	24,137	106,179	15,169	4,784,330	3,028,910
Kerosene	.....	.....	3,794	542	170,664	244,136
Tops	45,280	6,469	.....	.....	620,124	128,986
Exports:						
Crude oil	41,733	5,962	62,999	9,000	3,638,693	1,663,862
Fuel and gas oil	482,003	68,858	287,694	41,099	11,514,769	10,132,395
Gasoline	171,883	24,555	99,544	14,221	3,515,539	2,652,952
Tops	.....	.....	.....	.....	.....	170,407
Kerosene	148,517	21,217	98,460	14,066	1,587,103	1,597,190
TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS						
Crude oil	.....	.....	.....	.....	.....	.....
Fuel and gas oil	.....	.....	.....	.....	884,982	218,414
Gasoline	.....	.....	.....	.....	685,236	943,485
Tops	.....	.....	.....	.....	229,776	794,918
Kerosene	.....	.....	.....	.....	.....	.....
Lubricants	.....	.....	.....	.....	275,617	235,533
Coastwise:						
Fuel and gas oil	64,053	9,150	.....	.....	2,885,162	2,331,389
Gasoline	16,280	2,326	184,925	26,416	3,049,070	1,712,625
Kerosene	.....	.....	3,915	559	270,959	143,822
Exports:						
Fuel and gas oil	90,862	12,980	.....	.....	2,167,354	1,532,373
Gasoline	189,875	27,125	33,059	4,723	1,166,681	417,581
Kerosene	113,009	16,144	.....	.....	1,365,132	723,316
Lubricants	8,759	1,251	.....	.....	8,759	243,429



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Gas Companies Active in Eastern Area

Deep Sand Territory Southeastern Ohio Furnished Best Oil Producers. Pure Oil Co. Gets Good Well

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Aug. 30.—There is very little change in conditions in the eastern fields. Each week a few good wells are completed in some of the old districts, but the majority are light pumpers, dry holes or gas wells. Of the latter, West Virginia fields are completing more than oil wells. Operators are doing very little in the way of searching for strictly new producing territory. Work of this kind is too hazardous when the market is low. Nothing but the very shallow sand territory can be developed at a profit at this time. Except in the deep sand territory in southeastern Ohio there is very little doing. Only a few counties show any activity.

It is understood that, for the present at least, the South Penn Oil Co. will curtail its operations in Henry district, Clay County, West Virginia. For some months it has been the most active of any pool in the state. In development work the South Penn Oil Co. has been the leader.

In the lower West Virginia counties the gas companies are still very active in the gas areas. Boone and Logan Counties are receiving a good deal of attention at this time. Back in the old district, both the oil and gas companies are fairly active. The gas companies go into the winter with an abundant supply to meet the requirements to be made by domestic consumers in western Pennsylvania. The extension of the Hope Natural Gas Co.'s main line into southwest counties has made it profitable for holders of leases in the gas areas to develop their holdings. In the future the major portion of the gas is expected to come from that section.

Completions of the Week

The deep sand territory in southeastern Ohio furnished the best producers. In the northwest quarter of Section 26, Coal Township, Perry County, the Chartiers Oil Co. completed and shot in the Clinton sand No. 200 on the Hocking Valley Products Co.'s property. It produced 110 bbls. the first 24 hours. The Chartiers Oil Co. began operations on the Hocking Valley Products Co.'s properties some 18 or 19 years ago and has completed very few dry holes. There is still room for a number of wells.

In Section 17, Prairie Township, Holmes County, the Pure Oil Co. got in the same formation when it drilled No. 3 on the Hiram Marquis farm through the Clinton sand a producer that placed 105 bbls. to its credit the first 24 hours after shot. In Section 14, Hardy Township, the same company swabbed 35 bbls. from its No. 3 on the Warren Close farm.

In Section 28, Coal Township, Perry County, the Big Ten Oil Co. completed and shot No. 3 on the Hazelton heirs' farm. It produced 30 bbls. the first 24 hours. Reports coming from the fields indicate that the new production for the month will fall below that of July.

The best producer completed in the West Virginia fields is the Virginian Gasoline & Oil Co.'s test on the Brown, Goshorn, Swan & O'Dell tract. It is located 500 feet southwest of the South Penn Oil Co.'s No. 5 on the Joseph Belcher farm, and estimated to be good for 40 bbls. a day.

Southwest Pennsylvania completed no oil producers and the large wells in Morris Township, Greene County, show a sharp decline in production.

West Virginia

Boone County is showing more activity than at any time in a number of years. The Pure Oil Co. and the Owens Bottle & Machine Co. are the most active, completing more wells and starting more new ones than any other companies operating in Boone County.

In Sherman district, the Pure Oil Co.'s No. 227 on the William Coal Co.'s tract is good for 45 bbls. a day in the Berea grit. No. 26 on this tract is good for 25 bbls. a day. Nos. 228 and 229 have started to drill. The same company's second test on the Jacob D. Coon farm is a gasser good for 1,419,000 feet. No. 10 on the Federal Coal & Land Co.'s property is a duster. The same company is drilling a test on the D. W. Bone farm and No. 22 on Tract B of the Lafollette, Robson & Prichard tract.

The Owens Bottle & Machine Co., the next most active operating company, has completed No. 9 on the Peyton Coal & Land Co.'s property and dry. In Peytonia district, the same company's test on Tract A of the Coal River Mining Co.'s property is a gasser good for 2,925,000 feet. In Scott district, the same company is drilling No. 11 on the Casinham & Co. property. In Washington district, No. 4 on Tract B of the Little Coal Co.'s tract is drilling at 1,600 feet. In Crook district, the same company is drilling a first test on the U. S. Anderson farm and a second test on the Roxy Linville farm. In Sherman district, the same company has started to drill No. 10 on the Peytonia Coal & Land Co.'s tract. In Sherman district, Godfrey L. Cabot is drilling tests on the Laurel Creek Fuel Co.'s farm and the Charles Lewis farm. No. 4 on the Nelson Land & Mining Co.'s property is due in the sand. In Sherman district, Holstead & Co. are drilling on the White, Hopkins & White property.

In Logan district, Logan County, the Wocotock Oil & Gas Co. has a dry hole on the Guyan Mercantile property. The same company is drilling two wells on the Dingess Run Coal Co.'s property and the Yawkey & Freeman Coal Co.'s tract. The Hope Natural Gas Co. is drilling No. 3 on the Cole-Crane tract and Zonheimer & Gibbs are drilling a test on a part of the same tract

Fair Producer in Ritchie

On Meadow Run, of Goose Creek, Grant district, Ritchie County, John Starcher has completed a second test on the Metz heirs' farm. It is a natural producer good for 50 bbls. a day in the Big Injun sand.

In Washington district, Pleasants County, the New York Petroleum Co.'s No. 5 on the G. Henderson home farm has been drilled into the Big Injun sand and showing for a 25-bbl. producer. On the waters of Bean Run, Murphy district, Ritchie County, the Hope Natural Gas Co. has completed a test on the C. B. Nutter farm. It is a light pumper in the Big Injun sand.

Light Producer in Clay

In Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand a second test on the B. P. Parker farm. It is estimated to be good for 15 bbls. a day. The location is 550 feet southeast of the same company's test on the same farm.

On the right fork of Reedy Creek, in Reedy district, Wirt County, the Ohio Fuel Oil Co. has completed in the Berea grit a second test on the B. F. Brown farm and showing for a 4-bbl. pumper. The location is 1,300 feet east of the first test and 1,200 feet south of the Brown Farm Oil Co.'s test.

Gasser in Kanawha County

On Elk River, Big Sandy district, Kanawha County, the United Fuel Gas Co.'s test on the M. A. Cobb farm is a gasser in the Big Injun sand good for 750,000 feet. In Proctor district, Wetzel County, the Hope Construction & Refining Co. has completed a test on the Isaac Carney farm. It is a fair gasser.

On Hughes River, Grant district, Ritchie County, Romeo G. Wiles has a rig up on the West Virginia tract. In Clay district, Wirt County, the Victor Petroleum Co. is moving a drilling machine to a location on the George Lemon farm.

Located in Wood County, Williams district, in the Plum Run Pool, F. G. Mixer and others have completed in the salt sand a test on the C. W. Dowling farm. It is a duster. In Grant district, Pleasants County, the Bradford Supply Co. & Barkwell Brothers are drilling a test on the E. C. Reynolds farm.

Southeastern Ohio

In Lot 24, Newton Township, Licking County, the Ohio Fuel Supply Co. has completed in the Berea grit No. 6 on the Ellen E. Forry farm. It produced 25 bbls. the first 24 hours after shot. In Lot 8, same township, E. J. Edmonds & Co. have an 18-bbl. producer in the same formation at No. 9 on the Tobert Stair farm.

In Section 23, Marion Township, Hocking County, the Reedy Oil & Gas Co.'s test on the Peter Reedy farm, located in the northwest quarter of the section, is a duster in the Clinton sand at a total depth of 3,666 feet. In Section 2, Franklin Township, Licking County, A. J. Weidman & Co. have started to drill another test on the R. L. Tavener farm.

In Section 14, Holmes County, the Pure Oil Co. completed in the Clinton sand No. 3 on the Warren Close farm. It produced 35 bbls. the first 24 hours after shot. They swabbed its production. In Lot 24, Newton Township, Licking County, the Ohio Fuel Supply Co.'s No. 7 on the Ellen E. Forry farm is good for 20 bbls. a day after shot in the Berea grit. This is better than the average well in this formation.

Pumper in Hocking County

In the northeast quarter of Section 23, Washington Township, Hocking County, the Gordon Oil Co.'s second test on the Charles J. Meldrim farm is not good for more than 5 bbls. a day in the Clinton sand. In the northeast quarter of Section 8, Sharon Township, Noble County, H. A. Hendershot and others have completed in the 700-foot sand another test on the Clifford T. Marquis farm. It is a very light pumper.

Athens County

In the Fisher Pool, Section 16, Alexander Township, Athens County, J. H. Henderson & Co.'s No. 3 on the J. N. Wood farm is a duster in the Berea grit. In Lot 195, inside of the corporate limits of Athens, Cook and others have completed a test on the H. Milliron lot and is a very light pumper in the Berea grit.

The Leonard Oil & Gas Co. has completed and shot in the Berea grit No. 7 on the J. W. Myers 90 acres, located in the southwest quarter of Section 21, Fallsbury Township, Licking County. It is good for 15 bbls. a day. In the northwest quarter of Section 21, York Township, Morgan County, the Pure Oil Co. has completed No. 6 on the W. T. Williams farm. It produced 8 bbls. the first 24 hours after shot.

Located in Section 19, Washington Township, Monroe County, the Whitten Oil Co. and others have completed a second test on the H. H. Smith farm. It is a very light pumper in the Squaw sand. In Lot 6, Newton Township, Licking County, H. G. Farmer and others have started to drill another test on the Ora Pound farm and expect production in the Berea grit.

In Section 17, Newport Township, Washington County, the Peoples Banking & Trust Co. of Marietta has completed No. 9 on the Thomas farm and good for 5 bbls. a day in the first Cow Run sand. In Section 2, Franklin Township, Licking County, Moore & Adams have the same kind of a pumper at a second test on the P. L. and Mary E. Wolf farm. In Section 35, Bethel Township, Monroe County, H. L. Timbling has a light pumper in the Big Injun sand at No. 11 on the C. J. Bode farm.

In the southwest quarter of Section 28, Harrison Township, Perry County, the Leonard Oil & Gas Co. completed in the Clinton sand a test on the George Allen farm. The well produced 45 bbls. the first 24 hours and the succeeding four days nothing. The total depth of the well is 3,537 feet. In the old Corning Field, Section 12, Monroe Township, John Denman & Son's No. 23 on the Annie and Mary McGowan farm is a 5-bbl. pumper in the Berea grit. In Section 14, same township, Marshall & Marshall have a duster in the same formation at No. 31 on the Donahue farm. It has been abandoned.

Pumper in Coshocton County

In the southwest quarter of Section 25, Perry Township, Coshocton County, the Arkansas Fuel Oil Co. has completed and shot in the Clinton sand a test on the E. C. Powell 77 acres. The well produced 32 bbls. the first 24 hours. In the southwest quarter of Section 21, Jackson Township, Knox County, the same company has a 10-bbl. pumper in the Berea grit at No. 3 on the Harry H. Hall farm.

In the southwest quarter of Section 4, Jefferson Township, Noble County, L. A. Patten's No. 7 on the George Warren farm is not good for more than 2 bbls. a day in the Berea grit. In Section 13, Franklin Township, Licking County, the Detex Oil & Gas Co. and others have a 3 bbl. pumper in the Berea grit at No. 9 on the Otto Franks farm.

Dusters in Washington County

Located in the central part of Section 28, Newport Township, Washington County, W. J. Todd & Co.'s second test on the Frank Bosworth farm is dry in the Keener sand. On the Ohio River, Section 21, same township, Patterson, Riggs and Todd have drilled No. 6 on the H. R. Greene farm through the same formation and dry. On the west side of Section 29, same township, O. S. Reckard & Co.'s No. 13 on the F. F. Dana farm is a duster in the Keener sand.

Week-End Developments

In Lot 11, Monroe Township, Holmes County, the Arkansas Fuel Oil Co. has completed No. 3 on the William Miller farm. It produced 80 bbls. the first 72 hours after drilled into the Clinton sand pay. In Lot 4, Section 14, Chatham Township, Medina County, E. R. Edson, Son & Co. have completed and shot No. 24 on the Carl G. Packard farm. It is a very light pumper. In Section 7, Liberty Township, Monroe County, E. W.

(Continued on Page 76)

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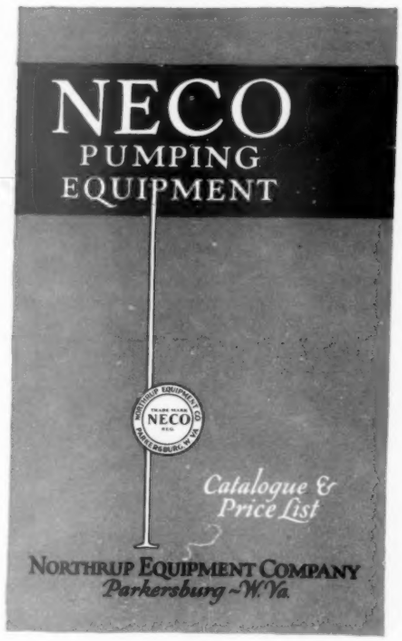

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Two Dry Holes Drilled in Saginaw Field

Rains Aid Development Work in Central West Fields. Lima Field Is Extended a Short Distance

By Whit

Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 28.—The heavy rains at the close of the week throughout the Central West Field will be a big help in development work as there has been a shortage of water for drilling purposes for some time. The usual amount of work is being done in all fields.

The real feature of the week was the finding of two dry holes in the Saginaw, Michigan, Field. The well on the Gearinger farm, about 5 miles north of the Saginaw Field, on the east side of the Bay Road, across into Bay County. No showing of oil was encountered in the Berea sand which was found at 2,035 feet and drilled to a depth of 35 feet in that formation, and the other is the test of J. H. Shaltry and others' on the Fred Pagel property, on McEwen Street west of Bay Street in Saginaw. Sand was found at 1,869 feet and drilled 16 feet in, where it was shot. Possibly the well may be drilled deeper in the sand in hopes of getting a lower pay in that formation as the Berea sand is very thick in the field.

The Gardner Petroleum Co.'s wildcat, 5 miles southeast of the field proper, on the Schwannecke farm, Section 33, Buena Vista Township, Saginaw County, along the Hess Road just to the southeast of Saginaw, failed to make any showing in the Berea sand there being 124 feet drilled through and the drill kept going in hopes of getting something in the Saginaw sand which was also dry, went on down to the Dundee which was topped at 2,908 feet and sent 80 feet in that formation to a total depth of 2,988 feet, with no signs of oil and looks like a failure, although the hole will be drilled until water or something else is found.

Ira B. Post extended the productive pool in Section 12, Bath Township, Allen County in the Lima Field, a short distance when he drilled in a 35-bbl. well on the southeast corner of the John Lenney farm. The best completion for the week in the Lima Field, was made in No. 6 on the Zimmerman farm, in the Roundhead Field, in McDonel Township, Hardin County, with an initial production of 50 bbls.

In Indiana, Jefferson Township, Adams County, the second well of Harmon and Watts on the Smitley farm, pumped 75 bbls. the first 24 hours and still had 1,000 feet of fluid in the hole, which is the best completion in the old Trenton Rock area of the State for a long time. This is in territory that was overlooked when Adams County was being developed back in the early nineties. G. S. Lacknett's second well on the H. L. Sipe farm, Blue Creek Township, same county, pumped 55 bbls. the first 24 hours.

In the Allendale Field of Wabash Township, Wabash County, Illinois, a 170-bbl. natural producer was drilled in a test on the Joseph Keyser farm, Section 13, that extends producing territory a short distance.

Glen Harmon and others' struck a 5,500,000-foot gas well on the Alayton Good farm, Section 36, Congress Township, Wayne County, in the Central Ohio Field.

Lima Field

Ira B. Post and others' added a little extension to the rich pool in Section 12, Bath Township, Allen County, in the Lima Field by the completion of a 35-bbl. well in the southeast corner of the John Lenney farm, Trenton sand was topped at 1,320 feet and drilled 51 feet in the sand. In the same section, C. A. Peavey and others' No. 7, 300 feet from the north line and 700 feet from the west line of the S. H. Vore farm, in the northwest quarter of the section, with top of sand at 1,314 feet and drilled 41 feet in the sand, the well showing an initial pumping of 15 bbls.

The Oko Oil & Gas Co. added a few hundred feet of extension to the DeVena Pool in Perrysburg Township, Wood County, when its No. 1 in the southeast corner of the Mrs. Mary Heilman farm, in the northeast quarter of Section 29, being located 525 feet north of the same company's No. 5 on the Louisa DeVerna farm. The well hit the sand at 1,241 feet and went to a total depth of 1,287 feet, or 46 feet in the sand, the well producing 14 bbls. In Lake Township, same county, Lantz, Schulte and others are drilling No. 3 on the H. C. Michelson farm, Section 26, near the town of Latcha. In Liberty Township, Hancock County, Kirk and Discuss' test, 600 feet from the south line and 200 feet from the west line of the M. E. D'scuss farm, mapped as the Ada M. Cramer farm, in the northwest quarter of Section 31, struck sand at 1,325 feet and drilled 75 feet in the sand, resulting in a 20-bbl. producer at 1,400 feet, and adds numerous locations between it and production.

In Hancock County, Biglick Township, the Ridge Oil & Gas Syndicate is drilling No. 3 on the C. S. Chambers farm, Section 35. In Marion Township, Merl E. Bower is drilling a second test on his own farm, in Section 36, while the Denhoff Brothers are drilling a test on the Elmer Spahr farm, Section 1, same township. In Liberty Township, J. T. Montgomery is drilling No. 24 Sarah Fountain farm, Section 3. B. B. Porter is drilling No. 4 F. Bish farm, Section 18, and Harpst Brothers, are working at No. 3 on the A. Schoonover farm, Section 29. In the same township, the Ohio Oil Co., has pulled out and abandoned No. 18. D. Sherrick farm, Section 15. Nos. 10, 63 and 64 J. Newhouse farm, Section 20, and No. 7 S. B. Swartz farm, Section 7. In Eagle Township, the Keiser Oil Co. is drilling No. 2 on the Joe Ernst farm, Section 31.

In Sandusky County, Scott Township, Harley, Henderson and Warner's No. 5 in the southeast corner of the William O. Doll farm, Section 35, pumped 5 bbls. with top of sand at 1,265 feet and 82 feet in the sand. Stitt, Pool & James are drilling No. 54 on the Stitt, Pool and others' farm, Section 4, and right close to Rollersville. This lease first operated in the early nineties by Stitt, Pool and Sager, the three original owners having passed over the divide, the last of which was Robert G. Stitt, who before coming to Ohio, operated in the Pennsylvania fields. In Jackson Township, Haubert & Talbert's No. 7 in the southwest corner of the Martha A. Talbert farm, Section 17, struck top of Trenton at 1,258 feet and at 51 feet in the sand, pumped 10 bbls. with No. 8 now drilling. The Home Banking Co. is drilling No. 6 S. M. Koltz farm, Section 4. In Washington Township, the Ohio Oil Co.'s No. 11 John H. Meyers farm, Section 30, pumped 6 bbls. W. C. Richards and others have abandoned No. 8 well on the Mary A. Hetrick farm, Section 13.

In Liberty Township, Mercer County, Beatty & Hays drilled No. 4 on the J. Ballenbacher, Jr., farm, Section 8, which topped the sand at 1,086 feet and struck salt water at 29 feet in the sand putting the well into the dry list.

In Oregon Township, Lucas County, Fred Keister is drilling No. 10 well on the R. A. Bartley farm, near Nomineetown, in Section 30, while the Ohio Oil Co. is drilling No. 44 on the Gertrude J. Niles farm, Section 29.

Drilling on Catawba Island

The Ohio Oil Co. has started its first test in the field opened up sometime ago on Catawba Island, in Catawba Township, Ottawa County. The well is on the E. E. Neal farm, Section 2, and not far from where the Catawba Oil & Gas Co. is drilling on the Hesselbart-Smith farm, in the same section. In the Elmore Field, in Harris Township, same county, the Burman Oil Co., is drilling No. 3 H. W. Nieman farm, Section 23, and the Ohio Oil Co. is drilling No. 3 on the A. T. Allyn farm, Section 19.

In McDonel Township, Hardin County, the Hardin Oil & Gas Co.'s No. 6, 300 feet from the north line and 1,300 feet from the east line of the A. R. Zimmerman farm, is a 50-bbl. initial producer. Sand was topped at 1,436 feet and drilled 50 feet in.

In Cynthian Township, Shelby County, the Wittmer Property Trustee well No. 3 Matt Zimmerman farm, Section 15, pumped 25 bbls. with top of sand at 1,289 feet and drilled to a total depth of 1,328 feet. Lee A. Watson's No. 4 on the Jennie Monnin farm, Section 34, pumped 5 bbls. at a total depth of 1,281 feet, or 50 feet in the sand.

Another duster has been added to the Wyandot area where the Ohio Oil Co.'s well on the northeast corner of the G. Tong farm, in the northeast quarter of Section 13, proved a duster. The sand was struck at 1,338 feet and drilled 280 feet in the sand to a total depth of 1,618 feet. The South Bend Producers Co., that recently drilled in a 40-bbl. producer on the Cooper farm, and later a dry hole on the Chesbrough farm, is now drilling a second test on the S. B. Chesbrough farm, Section 12, Ridge Township, Wyandot County.

The Ohio Fuel Gas Co. is piping the old oil town of Gibsonburg, Sandusky County, for natural gas.

The Oil Workers' Club of Ohio at its annual picnic at Findlay, elected C. G. Roy, North Baltimore, president; Fred Smith, secretary and R. E. Teatsworth, Van Buren, treasurer. Workers gave a loving cup to O. D. Donnell, vice president of the Ohio Oil Co. for his work in making the affair a success.

Indiana

Word comes from the Berne Field, in Jefferson Township, Adams County, Indiana, that the second well on the William Smitley farm, Section 6, pumped 75 bbls. into tankage the first 24 hours without lowering the oil in the hole. Had the well been speeded up it would have no doubt produced a much larger amount, possibly 150 bbls., but will make a better well to go along and not pumping it off as is the case in some fields, allowing the sand to stand dry for a short time causing the oil to force its way to other points. George S. Lacknett, the well known Pittsburgh producer, has a much better well than first reported in a second test on the H. A. Sipe 40 acres, Section 27, Blue Creek Township, same county, which put 55 bbls. in tanks the first 24 hours instead of being a 25-bbl. producer. In this township, Schulte, Haney and others are drilling No. 1 on the Edward Lugabill 129 acres, Section 20, and also drilling No. 8 on the Schulte farm, Section 16. In Wabash Township, same county, Fink and Smith are starting a second well on the Mrs. Dan Hawbacker farm, Section 17.

The Russell Producing Co. drilled its wildcat well on the Ballentine 500 acres, Section 20, Decker Township, Knox County, and directly north of the best producing area of the Wabash County, Illinois, Field, and just south of the Wabash River, to a depth of 1,500 feet, passing through the Biehl and Jordan sands with only a slight trace of oil, which was found in the Biehl sand. The formations, however, were found regular and somewhat higher and the Eastern Gulf Oil Co., desiring to make a deep test of this well, have taken over the lease and well from the Russell company, and is now deepening the well to endeavor to find something in the lower formations. The Russell company reserved an 80-acre offset.

In the southwestern part of Indiana, in Clay Township, Pike County, the Murphy Oil Co.'s No. 6 in the northeast corner of the Stewart Brothers farm, Lot 13, struck top of sand at 1,323 feet and at 4 feet in the sand the well showed a production of 20 bbls. In the same township A. B. Bement's test in the northeast corner of the Charles McAtee farm, in the northeast quarter of the same lot, found the top of the Rumble sand at 953 feet and at 14 feet in the sand, the well pumped 10 bbls. In Madison Township, the Ohio Oil Co. brought in a fair gas well in a second test, 800 feet from the north line and 250 feet from the east line of the A. H. Johnson farm, Section 35, at a depth of 1,290 feet.

Southwest of Washington, in Veale Township, Daviess County, the Peck Oil Co. run into a dry hole at its No. 5 well, 450 feet from the south line and 750 feet from the east line of the J. M. Peck farm, in the northwest quarter of Section 21, at a depth of 1,176 feet. The Geiger Oil Co.'s No. 6 well in the northeast corner of the Frank Gaither farm, in the same quarter section, pumped 5 bbls. from a sand tapped at 967 feet and 15 feet in the sand.

Good Wildcat Showing

Reports from the wildcat venture of Cavanaugh and others on the Allison farm, about 5 miles southeast of Washington, the county seat of Daviess County, and in Section 26, is that the showing is for an excellent well, there being four pays found at depths of from 800 to 1,100 feet, the oil being of a superior gravity according to the owners. There was 26 feet of pay sand between the depths of 1,050 to 1,100 feet and shows quality as good as the wells in Section 21, Veale Township, Daviess County. Should this well live up to what it is reported at, it will mean much for the future development of this county which has been overlooked for many years.

Illinois

The Ohio Oil Co. continues to make good progress on its deep test for oil on its No. 23 on the J. R. Middaugh farm, Section 32, Bridgeport Township, Lawrence County, Illinois, about 3 miles west of Lawrenceville, on the old State road. The drill at last report had reached a depth of 2,800 feet, nearly the last 1,000 feet of which has been through hard limestone formation which makes progress comparatively slow but they have been fortunate in having a minimum amount of trouble from cave-ins or from too much water. Unless a producing sand is found at a shallower depth it is the intention of the Ohio Oil Co. officials to send the drill down to a depth of 4,000 feet in an effort to determine whether or not producing sands exist below the level of the known producing sands of the country. It is expected that the Trenton Rock will be found in this locality at a depth of approximately 3,800 feet, the thickness of which must be determined after this well known formation is reached as it is known to be 900 feet thick in spots in Ohio. This is the only producing sand of northwestern Ohio

(Continued on Page 94)

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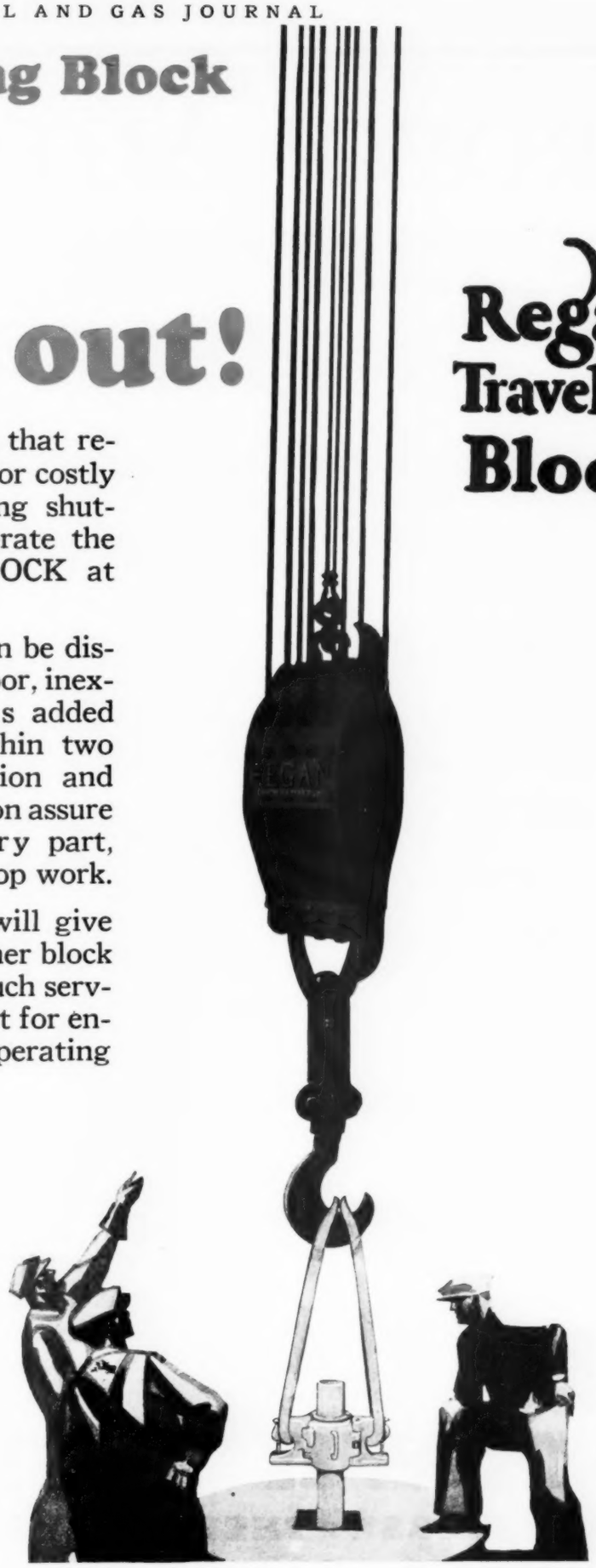

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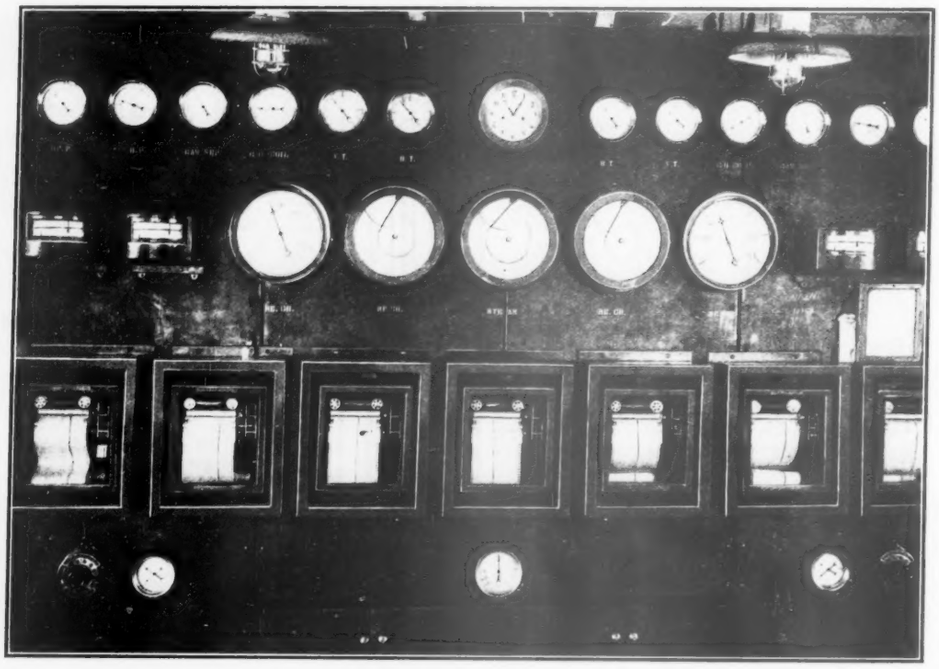
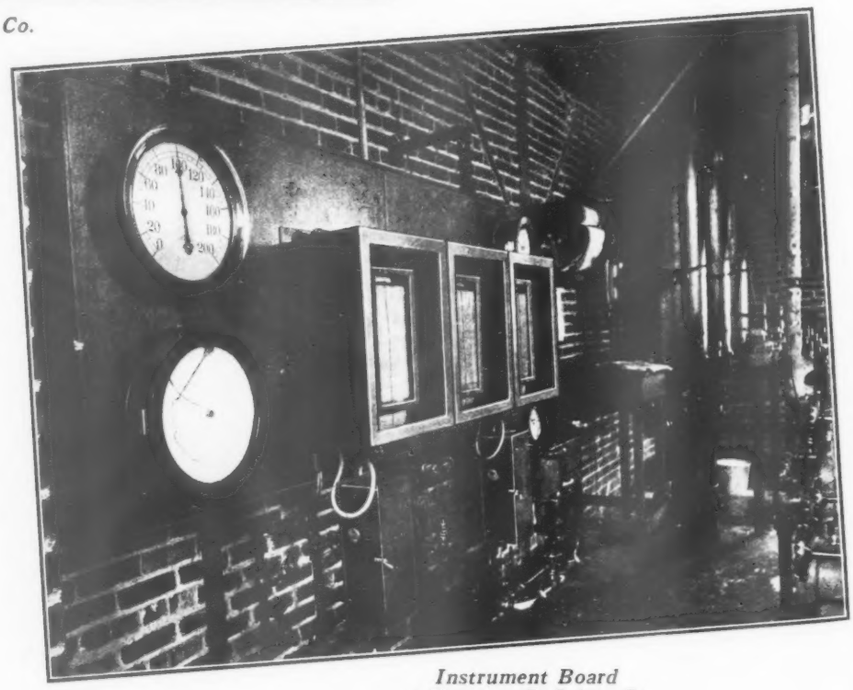


Instrument Board at Barnsdall Refining Co.



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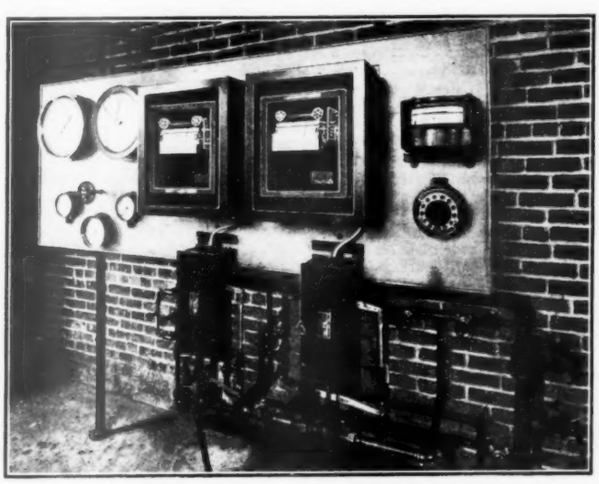

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500 Barrel Well in Clay County, Tenn.

Northern Tennessee Operators Have Hopes for Pipeline. Eastern Kentucky Shows Revival of Field Work

By Whit

Staff Correspondent, Kentucky-Tennessee

CELINA, Tenn., Aug. 28.—Another sensational strike has been made in the Clay County Field of Tennessee that has caused a great deal of excitement among the operators and scouts in that area. The new well was drilled by John H. McClurkin, one of Kentucky's old-time operators, on the Lem Cunningham farm, on Wet Fork of Mill Creek, 4 miles due south of Celina, and a mile due west on the same creek from the recently drilled gusher by McClurkin, on the Barlow Langford farm. The Cunningham well got its pay in the lower Sunnybrook formation at a depth of 298 feet, when it started flowing and covered the water of Mill Creek for several miles, wasting a large amount of crude, possibly more than 500 bbls., as it flowed continuously for more than 24 hours while casing and packer were being transported from another lease. The casing was set and the well got under control when it was drilled about 10 feet deeper in the sand. Tankage was being set, and it is rumored that the Stoll Refining Co. will lay a line to the Cunningham and Langdon wells and take the production, as it would require only about 1½ miles of line to reach the Cunningham well. The two wells, about a mile apart on an east and west line, make the intervening territory look as if something had been found in the McClurkin Pool that should bring about an intensive drilling campaign. The two wells are said to lie on top of a large structure extending 4 miles north and south, the northern end of it known as Peterman Bend Pool, also located by McClurkin. A number of new wells have been contracted for and work will begin immediately.

The land owners, citizens and operators in the northern part of Clay County, Tennessee, are happy now that the leading oil fields of the county are to get an outlet for their crude oil. This means that an extension of the Paragon Development Co.'s line is being made from its pumping station on Kettle Creek to the Clark Pool, sometimes called the Peterman Bend Pool, 1 mile east of Celina. The extension is 9 miles long. The pool, according to advice, has more than 3,500 bbls. of crude in storage tanks on leases and the completion of this line means much for Clay County. H. Z. Clark, the big operator of the Clark Pool, has secured for the Paragon company the right of way from all the land owners over whose land the pipeline will be built. Six miles of this line will be 2-inch and three miles will be 3-inch line. Mr. Clark is now installing for his company an engine and power for shipping its oil and pumping its wells and will move a Star drilling machine back to the properties at once to resume drilling new wells. It is expected that the pipeline will be completed within 30 days, at which time the producers for the first time can turn Clay County oil into cash.

Owens, Long and others, Texas operators, are drilling three wells, two near Lillydale, one on the G. M. Gamewell farm, and one across the line in Clinton County, Kentucky, and the third is on the Myers farm, near Fox Springs, in Clay County. Leech & Hunt are making a deep test in a well near Timothy, Clay County, and expect to find a pay at around 1,500 feet. The well is getting close to that point, being below the 1,400-foot mark. A Mr. Miller, of West Virginia, has a block of acreage close to Neal's X Roads and getting ready to start a test. Cloute of Newark and Beabout of Zanesville, Ohio, are blocking up some acreage for test work in Clay County.

Kentucky

Due to heavy rains, that make roads impassable, there has been a lack of completed work in the western division, although the eastern division has improved to some extent. The best completion in the east for the week was made by Hupp & Duff on the Whitt farm, District 31, of Johnson-Magoffin Counties, and a little in advance of production, and showed an initial of 30 bbls. In the western division and in the Daviess County end of the Owensboro district, the second well on the Nannie Brown farm is credited with an initial of 60 bbls.

Week's Work

A summary of the week's work in the Kentucky-Tennessee Field shows 32 completions, 27 producers with an initial production of 847 bbls., 5 dry holes and no gas wells. Compared with the previous week, there were 10 more completions, 12 more producing wells, 481 bbls. more production and 1 less gas well. The wells were distributed by counties and districts as follows:

County—	Comp.	Wells	Oil Initial Prod.	Dry	Gas
Estill	7	6	72	1	0
Lawrence-Johnson	7	7	62	0	0
Johnson-Magoffin	6	6	95	0	0
Owensboro	5	3	85	2	0
Lee-Owsley	2	2	10	0	0
Wayne	2	1	3	1	0
Barren	1	1	20	0	0
Allen	1	0	0	1	0
Clay County, Tenn.	1	1	500	0	0
Total	32	27	847	5	0
Last week	22	15	366	5	1
Difference	10	12	481	0	1

Western Division

Only seven completions were reported for the week from the eastern part of Kentucky, three being dry holes and the other four are credited with an initial production of 105 bbls. This shows that the division is not as active as it has been which was caused by a change in weather conditions. First it was so dry that water could not be secured to drill with and then came the extreme heavy rains that practically put the mud and side roads out of the running.

Only one well was reported from the Scottsville Field of Allen County, which was the Citizens Oil Co.'s No. 19 on the J. H. Rickman farm, which was dry at 395 feet. Barren County listed but one well, which is in the Knob Road district, drilled by Ziegler Brothers, on the Dauter Brothers farm, with an initial close to 20 bbls., and which adds a small amount of territory to that district. The other five wells were in the Owensboro district, the rapidly coming leader of the western part of the state. The late arrivals in the Owensboro area mean much for the development of the territory more rapidly and work will cover a much wider scope of territory. Such companies as the Ohio Oil Co., Petroleum Exploration Co., Wood Oil Co., Loman Oil Co., White Plains Oil & Gas Co., Lewis J. Emery, Jr., & Sons Co., Rex-Pyramid Oil Co., Leeper Oil Co., Chicago Petroleum Syndicate and Penn-Indiana Oil Syndicate mean much to a young growing oil field, as they will push new work far into the interior and develop new prospective territory of which there appears to be aplenty. The C. E. Daugherty interests, Spice Knob Co., Bert Thompson, Miller & Damron and others are doing their part to more fully develop the vast area.

One of the outstanding features of the week in the Owensboro Field was the bringing in of what is considered the best producing well yet found in the Daviess County end of the field by the Chicago Petroleum Syndicate in a second test on the Nannie J. Brown farm. Nos. 1 and 2 are separated by Deserter Creek, which is the division line of Daviess and Ohio Counties. No. 1 is in Ohio County, and when completed was reported at 25 bbls., while No. 2 is in Daviess County and reported at 60 bbls. from the Barlow sand. It is really the only Barlow sand well as far as known that found oil in that formation. The C. A. Leeper interests have a number of Jett sand producers in on the Daviess County side of the line. Other wells will be started at once on the Daviess County side.

In the Collier Pool, C. A. Leeper's second well on the J. S. Collier farm, and 400 feet north of No. 1, is reported at 10 bbls. in the Jett sand. The Butte Dredging Co.'s well on the Alice Evans farm is reported a duster in the Jett sand.

The Penn-Indiana Oil Syndicate failed to find any traces of Jett sand in its test on the Orvis A. Greer 190 acres, west of Whitesville and east of the hamlet of Boston, and drilled down to the Barlow with the same result. The hole has been abandoned. This company is drilling No. 4 on the C. A. Kelly 260 acres and located 400 feet south of No. 3 same farm.

The White Plains Oil & Gas Co.'s No. 3 on the John C. Ward 50 acres is reported as good for 15 bbls.

C. A. Leeper is drilling No. 5 on the H. D. Brown 205 acres, and located 600 feet west of No. 4, same farm. The Wood Oil Co. has a rig in for No. 6 on the J. U. Bartley 189 acres north of the Illinois Central Railroad on the east line of the farm and adjoining the Joe Bob Ellis lands. The Rex-Pyramid Oil Co. is drilling No. 1 Ambrose farm and an offset to the Ohio Oil Co.'s producer on the Ambrose farm. The Ohio Oil Co. is getting ready for a well on the Lorenzo Crow 50 acres, being an offset to its No. 1 on the Ellis-Helpin farm. Same company has a rig in for a test on the Daly farm, a quarter of a mile east of Pleasant Ridge.

In the Scottsville Field of Allen County Stinson and others are drilling No. 5 Dora B. Corbitt farm. The Lackawanna Producing Co. is doing the same at No. 32 on the Andy Smith farm. Miller and others are working at No. 1 I. Strait farm. F. J. Tapp is drilling No. 13 Ike Hill farm and H. B. Bastress is doing the same at No. 9 Dink Britt farm.

Eastern Division

Estill County, of the eastern division, shows more drilling activity than for a long period, the bulk of which is done by the Superior Oil Corp., which is finding some very fair producers ranging from 8 to 12 bbls., at shallow depths. This is in District 8; it's Nos. 12, 15, 16 and 17 Simp Horn farm showed initial production of 10, 10, 8 and 12 bbls., respectively, while No. 7 Green Campbell farm was a duster. The Wood Oil Co.'s Nos. 9 and 10 William Neal farm, same field, are credited with 10 and 12 bbls. In District 7, two wells are nearing pay sand as are several in District 8.

In District 18, of Lee-Owsley Counties, the Ohio Oil Co.'s Nos. 82 and 83 are reported at 5 bbls. each.

In Wayne County, District 2, the Superior Oil Corp.'s No. 13 James Dabney farm pumped 3 bbls., while the Vulcan Oil Co.'s No. 18 T. T. Davis farm was dry.

In the North Weir Field of Lawrence-Johnson Counties, in District 22, Garrison & Townsend's No. 10 on the I. N. Sparks farm showed 3 bbls., and their No. 11 on the L. T. Sparks farm was a duster. In District 22-A the Keaton Oil & Gas Co.'s No. 32 on the Jesse Lyon farm produced 12 bbls., and the Swiss Oil Corp.'s No. 14 M. E. Ferguson farm pumped 10 bbls. In District 32, same company's No. 32 Proctor Sparks farm is estimated at 12 bbls., and No. 45 P. P. Holbrook farm, of the Swiss company, showed 15 bbls. The Wheeler-Watkins Oil & Gas Co.'s No. 3 Esta Walters farm, same district, produced 5 bbls.

In the South Weir Field of Johnson-Magoffin Counties, Hupp & Duff drilled a test on the B. F. Whitt No. 2 farm, some distance from production, and brought in a 30-bbl. initial producer. This is in District 31, while in the same area Oliver Jenkins' No. 9 on the Salver heirs' farm produced an initial of 25 bbls. In District 29 the R. G. Gillespie estate's No. 4 on the Yearns Hale farm produced 15 bbls., and Hudson & Collins drilled in a 10-bbl. pumper in No. 11 Oscar Wheeler farm. In District 27, the Burton Fork Oil Co.'s No. 9 on the Ben McCormick farm produced 5 bbls., and in District 25 the Cumberland Petroleum Co.'s No. 42 L. C. Bailey farm pumped 10 bbls.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended August 21 totaled 1,126,000 bbls., a daily average of 160,857 bbls., compared with 1,518,000 bbls., a daily average of 216,857 bbls. for the week ended August 14, and a daily average of 203,357 bbls. for the four weeks ended August 21.

At Atlantic Coast ports—	
Baltimore	227,000
New York	223,000
Total	450,000
Daily average	64,286
At Gulf Coast ports—	
Galveston district	146,000
New Orelans and Baton Rouge	380,000
Port Arthur and Sabine district	60,000
Tampa	90,000
Total	676,000
Daily average	96,571
At all United States ports—	
Total	1,126,000
Daily average	160,857
Daily average 4 weeks ended	203,357

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended August 21 totaled 719,000 bbls., a daily average of 102,714 bbls., against 451,000 bbls., a daily average of 64,429 bbls. for the week ended August 14, and a daily average of 87,964 bbls. for the four weeks ended August 21.

At Atlantic Coast ports—	
Boston	247,000
New York	268,000
Philadelphia	114,000
Others	90,000
Total	719,000
Daily average	102,714
Total Atlantic and Gulf Coast ports	719,000
Daily average	102,714
Daily average 4 weeks ended	87,964

Distribution of total California oil receipts is as follows:

Crude	438,000
Gasoline	75,000
Fuel oil	206,000
Total	719,000

NEW WELL IN VENEZUELA

Venezuelan Oil Concessions, Ltd., appears to have opened up a new oil pool in the Maracaibo Lake Basin, Venezuela, with its No. 1 in the Sibucara Field. A gas flow with a strong showing of oil was struck at 1,645 feet recently, according to advices from Venezuela. The oil is 38 degrees gravity.

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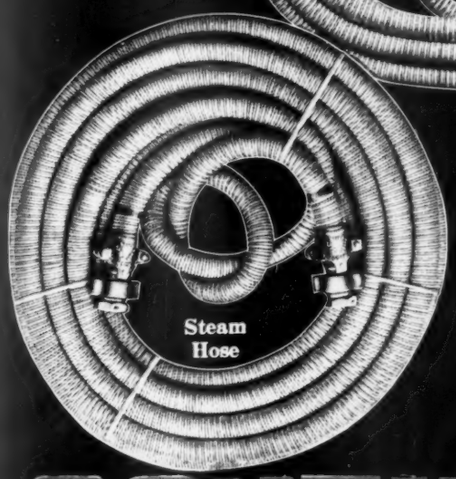

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MEN KNOWN IN OILDOM

A. W. Duston

A. W. Duston, chief geologist and a director of the Independent Oil & Gas Company, was one of the early entrants into the petroleum geological profession.

Mr. Duston was born at Washington, Kans., in 1888. After preliminary education at the local schools, he entered Kansas State University from which he was graduated holding the degrees of A. B. and B. Sc.

He entered the employ of the Kansas State Geological Survey in 1912, and started an office at Alberta, Canada, as a consulting geologist in the spring of 1914. In 1916, he became district geologist for the Empire Gas & Fuel Company in the Gulf Coast fields.

In 1917, he enlisted in the army, and was commissioned a first lieutenant. In company with Sydney Powers, now of the Amerada Petroleum Corporation, he was sent to France to perform geological work, and was attached to the general headquarters there. It is said that they were the only two members of their profession sent from this country to do geological work, although many assistants were detailed from the forces already overseas.

In 919, Mr. Duston headed the geological force of the Emerald Oil Company in Texas and New Mexico, and in 1920 he represented the Pierce Oil Corporation in the Okmulgee district of Oklahoma.

He was engaged in consulting geological work at Okmulgee from 1922 to 1924, when he organized the scouting and geological departments of the Independent Oil & Gas Company and he has since been a member of the executive family of that company. He holds membership in the American Association of Petroleum Geologists and the American Institute of Mining and Metallurgical Engineers.

PERSONAL PARAGRAPHS

W. G. Skelly, president of the Skelly Oil Company, has returned to Tulsa, after a 10-day visit to New York.

* * *

W. E. McLeod, oil operator of Calgary, is spending a month in St. Paul, Chicago, New York and other eastern points.

* * *

Charles A. Parkin, Oklahoma representative of the Petroleum Company and its subsidiaries, is the father of a 9-pound girl.

* * *

T. A. Johnston, president of the T. A. Johnston Company of Okmulgee, Okla., has returned from a vacation spent trying to hook the long ones in the Minnesota streams.

Earl Mitchell, controller of the Texas Pacific Coal & Oil Company, Thurber, Tex., is vacationing with his family in California.

* * *

M. J. Grogan, vice president of the Louisiana Oil Refining Corporation, has returned to his Shreveport office from Cincinnati, Ohio.

* * *

Fritz Aurin, chief geologist of the Marland Oil Company, was a visitor in Tulsa recently from his headquarters at Ponca City, Okla.

* * *

J. B. Forker of Oil City, Pa., representing the Oil Well Supply Co. of Pittsburgh, has been looking over the new field at Saginaw, Mich.

* * *

M. O. Rife, superintendent of production for the Gulf Refining Company in Louisiana and Arkansas, is spending his vacation in Little Rock, Ark.

* * *

W. R. Thawley, in charge of the Gypsy Oil Company scouting forces, has returned from a month's vacation spent touring the eastern states.

* * *

C. R. Minor, vice president of the Gulf Refining Company and in charge of the Louisiana-Arkansas district, made a recent trip to Houston, Tex.

* * *

Harry W. Smith has returned to Petrolia, Ont., after spending three and a half years in Persia and Spain for the Anglo-Persian Oil Company.

* * *

Roby Penn, president of the Texas Pacific Coal & Oil Company, Fort Worth, Tex., is spending his vacation in Clifton Springs, N. Y., his old home.

* * *

Herman E. Marsh, in charge of the Fort Worth, Tex., office of the Amerada Petroleum Corporation, has returned from a vacation trip to his old home in North Carolina.

* * *

W. L. Stratton, assistant to C. K. Clark, president of the Standard Oil Company of Louisiana, has returned to Shreveport, La., following a brief vacation in Chattanooga, Tenn.

* * *

George R. Elliott, for two years geologist with the Standard Oil Company of California, land and lease division, is now with the United Oil Company, headquarters at Los Angeles.

* * *

F. J. Omo, income tax accountant and appraisal engineer for the Texas Pacific Coal & Oil Company, has returned to the Fort Worth office from a trip to New York and Washington.

* * *

Howard Bennett, managing director of the Western Petroleum Refiners Association, with headquarters in Tulsa, Okla., was in Shreveport, La., last week on a brief business mission.

* * *

J. C. Wheeler, general manager of the southern division of the Shell Company of California, is passing around the cigars in honor of young Wheeler, who arrived last week, weighing 8 pounds.

* * *

J. L. Anderson, formerly with the Hinderliter Tool Company, and R. V. Shirk, formerly with the National Supply Companies, have joined the sales force of the B. & A. Specialty Company of Tulsa, Okla.

* * *

Harry Maddren, formerly with the Prairie Oil & Gas Company and later production manager of the United Oil Company in California, has succeeded Thomas Crumpton as production manager of the California Petroleum, who resigned several weeks ago.

* * *

R. T. Colquette, superintendent of the Texas Pacific Coal & Oil Company's refinery at Wynnewood, Okla., has been promoted to superintendent of the company's Fort Worth refinery, succeeding A. H. Mayo. T. A. Pomeroy, assistant superintendent of the Wynnewood refinery, has been promoted to superintendent of this refinery.

* * *

E. H. Moore, president of the Independent Oil & Gas Company of Tulsa, Okla., and E. F. Connors, vice president, are making a tour of inspection of the company's Texas properties. The Independent is drilling offsets to the Dixie Oil Company's Ed S. Hughes lease in Upton County where a big gusher is holding the attention of all west Texas operators.

William O. Gillespie, who returned recently from the Borneo fields to Petrolia, Ont., will, it is announced, not return to the far eastern fields, but will probably make his home in Canada. Mr. Gillespie, though still a comparatively young man, has spent more than 23 years of his life under foreign skies.

* * *

C. I. (Al) Jennings, geologist for the Texhoma Oil & Refining Company, with Fort Worth headquarters, spent his vacation in Morgantown, W. Va., his old home town. After returning to Fort Worth he immediately left again on a trip through west Texas.

* * *

Lurid tales of great catches of tarpon in the Gulf across from Corpus Christi, Tex., finally broke down the "show me" attitude of George H. Lang, chief scout of the Carter Oil Company, and Mr. Lang now is trying his luck with the silver tribe, with Corpus Christi as his base of operations.

* * *

Bonneau Peters, chief scout of the Standard Oil Company of Louisiana, and his brother, L. C. Peters, superintendent of production in Arkansas for the Humble Oil & Refining Company, with members of their families are on a vacation trip along the Gulf Coast through Texas. C. L. Steffans, veteran Standard scout, relieved Mr. Peters.

* * *

Harry O'Brien, who has been employed by a British company at Yenangyaung, India, for the past six years, has returned to Oklahoma for a brief furlough, and is spending part of his time in Nowata visiting old friends. Mr. O'Brien formerly lived in Nowata. His mother resides at Ramona, Okla., and he has spent some time visiting at her home.

* * *

R. M. Putman, formerly manager of Union Oil Company's operations in Texas, has been appointed assistant manager of field operations with headquarters in Los Angeles. Mr. Putman became associated with the field department of the Union Oil Company in 1912, and for eight years was special agent in the Orange district. In 1920 he left the company to become manager of the National Exploration Company of New Mexico, a subsidiary of the Union Oil Company of Delaware. When this company was absorbed by the Royal Dutch Shell interests a year later. Mr. Putman returned to the Union Oil Company of California to manage their operations in the Lone Star State.

* * *

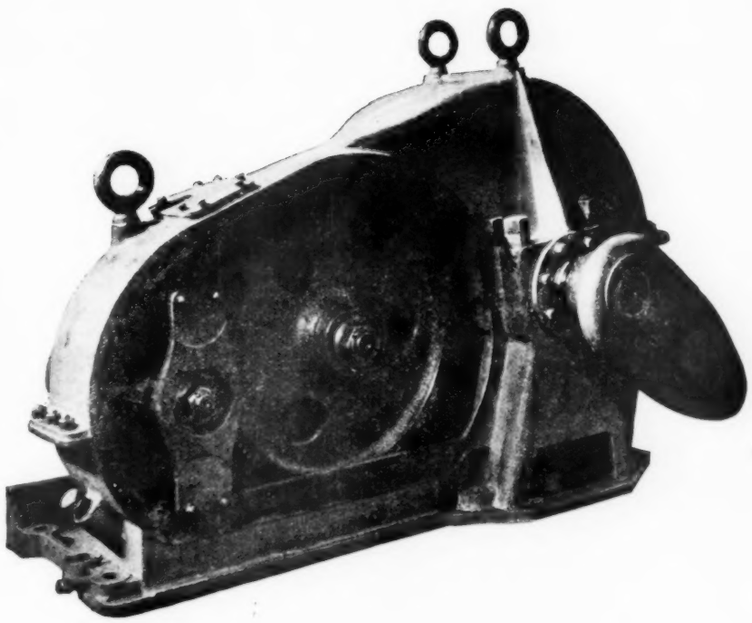
L. S. (Doc) McGee is the new chief scout of the Pure Oil Company at Tulsa, succeeding Hugh Mauldin, who is now assistant to the vice president. Tom Rozelle, formerly in the Tulsa branch of the Pure, is now assistant to the vice president, and has the Arkansas branch of the Pure Oil Company in his charge. E. E. Campbell, formerly petroleum engineer at the United States Bureau of Mines Experimental Station at Bartlesville, Okla., and more recently with the Pure Oil Company, is now general superintendent of production, succeeding Elmer Andrews, who has resigned to enter business for himself.

* * *

Charles A. Whiteshot, oil historian and a veteran expert driller in many fields in America and abroad, has been enjoying an unusual vacation this summer. He walked into the New York bureau of The Oil and Gas Journal on Monday, August 23, after a hike which started in Chicago. He was dressed in blue overalls and army shoes and with his more than 6 feet of height and his booming voice, Mr. Whiteshot made a figure which brought back to The Journal's New York correspondents recollections of big field men in the Mid-Continent and Gulf Coast Fields. Mr. Whiteshot started his hike at the office building of the Standard Oil Company of Indiana on Michigan Avenue, Chicago, and ended it at historic 26 Broadway, taking 23 days to make the trip. He visited the Bradford and Richburg Fields and Richford, N. Y., the birthplace of John D. Rockefeller, on his way East. Mr. Whiteshot drilled in the Richburg Field when the late P. C. Boyle was publisher of the Richburg Oil Echo, his first newspaper venture, 44 years ago, and was well acquainted with the founder of The Oil and Gas Journal. Mr. Whiteshot is the author of "The Oil Well Driller," a volumnous history of the first 45 years of the oil industry in America.

Latest Development for the Petroleum Industry

Nuttall Solves Another Knotty Problem



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Easily Changeable without changing Gear Unit.

Write for Details and Prices

What the petroleum industry has been wanting—and needing—for many years! A reduction gear unit for use immediately between the driving element and the standard pitman. Available for operation with any type of power now employed, whether it be electric motor, single-cylinder gas or oil engines or multi-cylinder gasoline-gas engines. A change in class of power can be made without changing gear unit or materially affecting its set-up at the well. Number of pumping strokes per minute readily changeable without disturbing crank connection or removal of main castings and shafts.

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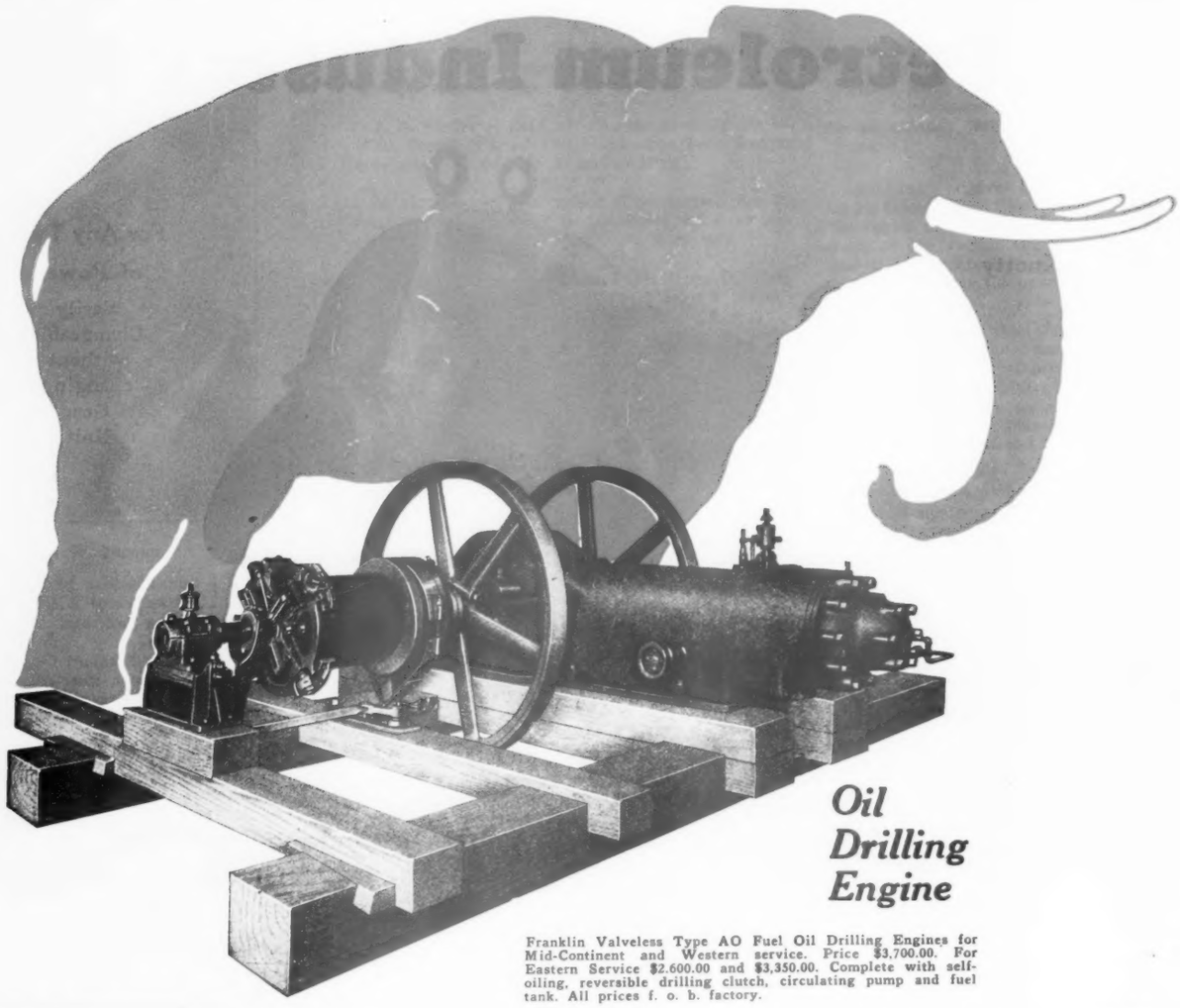


Oil Drilling Engine

Franklin Valveless Type AO Fuel Oil Drilling Engines for Mid-Continent and Western service. Price $3,700.00. For Eastern Service $2.600.00 and $3,350.00. Complete with self-oiling, reversible drilling clutch, circulating pump and fuel tank. All prices f. o. b. factory.

Franklin Valveless Engines are made in types for both Oil and Gas Fuel for cable tool drilling—for any condition or depth. The Franklin is a single cylinder, three-port, two-cycle VALVELESS engine and is constructed with the fewest possible number of parts. The construction keeps out all sand and grit; no valve grinding and the bath lubricating system used reduces lubrication bills 75%.

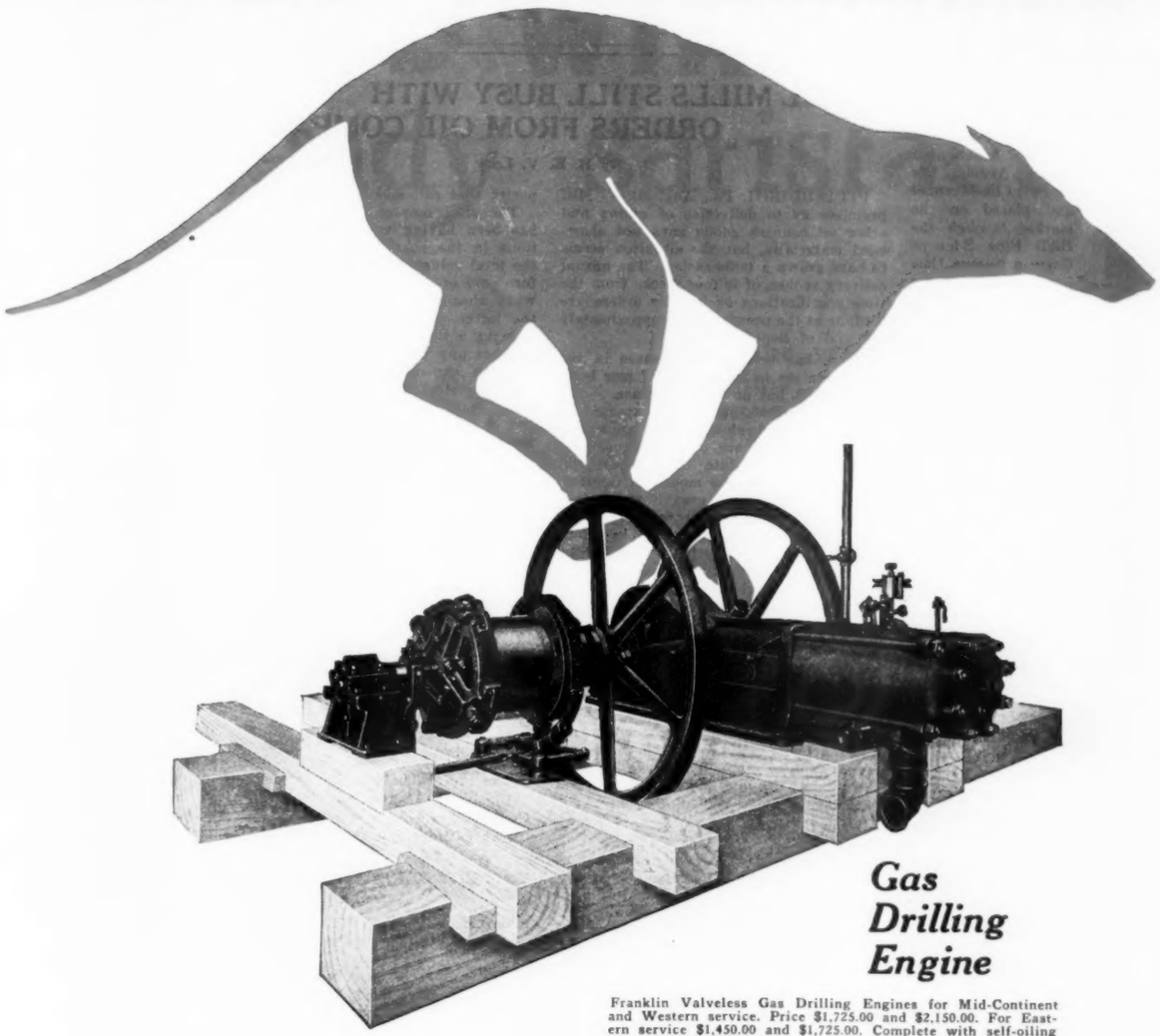
We can show you records of Franklin Valveless Engines that have drilled from 10 to 18 wells ***without one cent of repair cost.***

Add to that virtue, the lowest of operating costs, yet power, speed and flexibility and you know why the Franklins lead the field.

FRANKLIN VALVE

THEY BEAT STEAM

FAST FLEXIBLE



Gas Drilling Engine

Franklin Valveless Gas Drilling Engines for Mid-Continent and Western service. Price $1,725.00 and $2,150.00. For Eastern service $1,450.00 and $1,725.00. Complete with self-oiling reversible drilling clutch and circulating pump. All prices f. o. b. factory.

Interchangeable—Drilling, Pumping

Where gas is available the Franklin Valveless Gas Drilling Engine while being just as efficient and economical as the Oil Drilling Engine, it has another big advantage—INTERCHANGEABILITY. 25-30 H.P.—40 H.P.—50 H.P.—60 H. P. Gas Engines are all interchangeable on the same block. You can leave the Gas Drilling Engine on the block for pumping or replace it with one of less horse power without changing a single bolt.

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LESS ENGINES

AT EVERY TURN

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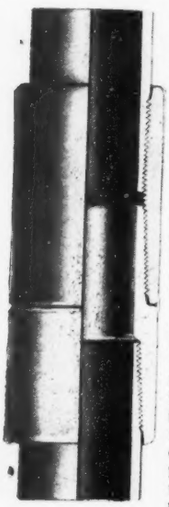
EQUIPMENT AND SUPPLIES

NEW JOINT DESIGNED TO PREVENT "SWAGE"

Hugh A. Bardeen, an old experienced driller and operator of Los Angeles, has recently invented and placed on the market through the B&B Pipe Shops Corp. a unique time and money saving tubing joint, which he claims has the same inside diameter as the tubing itself as well as equal outside measurements, and is manufactured from high carbon steel, made to fit any size tubing.



Mr. Bardeen says that every oil man knows that he has very little if any trouble with his tubing threads at the factory end under the coupling as the coupling is seldom pulled and the threads and fit remain perfect, but it is a well known fact that "making up" tubing in the collar will "swage" the tubing to the danger point in a few runs, as the photo shows.

Therefore, according to Mr. Bardeen, in setting up a new string of tubing using B&B Tubing Joints the tubing is never unscrewed at tubing joints, and as these joints will stand constant screwing and unscrewing the tubing will always remain as strong as new tubing.

Accompanying illustrations show a section of tubing as it is run in the well with this new tubing joint. The pin end is made from high carbon steel, which has much greater strength than tubing and will stand repeated screwing and unscrewing. The box end is the regular tubing coupling being faced back to assure proper fit and draw and all threads are same as tubing. When the joint is set up the shoulder not only acts as a seat to insure against leakage, but also acts as a stop.

PAT O'CONNOR, SALES MANAGER

The Columbian Steel Tank Co., Kansas City, Mo., announces the appointment of Patrick E. O'Connor as national sales manager. Until recently, Mr. O'Connor was in charge of the petroleum group, national sales department of the White Motor Co., Cleveland. Prior to that he served several years with the sales force of the Lucey Manufacturing Corp.

STEEL MILLS STILL BUSY WITH ORDERS FROM OIL COMPANIES

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 30. — Mill promises as to deliveries of casing and other oil country goods have not shortened materially, but the situation seems to have grown a trifle easier. The unsual delivery spoken of is four weeks from the time specifications or definite orders are filed, or at the present time approximately the end of September.

There has been some decrease in the past fortnight in the volume of new business placed, but no large decrease. Some further decreases are to be expected as the season wears along. Mills are counting on this, and are evidently conservative when they state they expect full operation through the month of October, for that would occur even if there were quite a substantial decrease in the buying. If, to illustrate, a mill had four weeks of business on hand and booked for eight weeks at one-half the rate of shipment, it would take the eight weeks to exhaust the backlog.

There has been a little decrease in the volume of merchant pipe buying in the past week or two, but the demand is still quite fair indeed. The mills themselves do not seem to consider this demand very good, simply because it is not fully up to the oil country goods demand, but the latter may rather be considered exceptional. Practically all the lap weld capacity of the pipe industry is engaged, with 80 to 85 per cent of the butt weld.

Even the Riverside works, near Wheeling, of the National Tube Co., which has been considered a reserve or emergency plant since the building of the company's pipe mill at Gary, is now operating its lap weld furnaces, the two lap welds having been started a week ago, August 23, making 3-inch to 6-inch pipe. The butt weld furnaces at the plant remain idle. The steel department of the plant is not running, skelp being supplied from the McKeesport plant.

There is increasing interest in the proposed gas line from Amarillo, Tex., to Kansas City. This contemplates 450 miles of 20-inch pipe, about 100,000 tons, and that alone would make a new high record for a single line, but in addition there will be required 20,000 to 30,000 tons of feeders, branch lines, etc. Much secrecy is sought to be maintained, but the pipe trade understands that gas production is now being optioned or leased by the projectors. Probabilities are that the pipe will be arranged largely for winter production, when the pipe mills can best handle such a tonnage. At 130,000 tons, this would represent about 3 per cent of the total capacity for a year in all sizes of welded pipe, and a much larger percentage, of course, of the capacity that can make the sizes required.

The steel market, taken as a whole, has been having various minor fluctuations in the past couple months, as to the total volume of business placed. The fore part of August seemed to run somewhat ahead of the July average, while the latter part of August has probably brought a little decrease. By no means is there any plainly marked trend. The common expectation seems to be that while the steel mills have averaged nearly if not quite an 80 per cent operation in the past three months, the next four months are much more likely to show a decrease, on an average, than an increase.

Finished steel prices are showing no distinct trend. They are quite well held all along the line. While there is strenuous competition for orders every business day, price cutting, the chief recourse of the salesman in the old days, is not resorted to. In sheets there is a gradually stiffening market, with just a very little recovery, thus far, from the large decline that occurred in the fore part of the year. In bars, shapes and plates the stiffer market attained in June is held, but the test is still to come whether the slightly higher prices will be made on fourth quarter contracts, contracts for the present quarter having been closed bfeore the stiffening.

Pig iron continues dull. Ten days ago Connellsville coke seemed to be in line for an advance, but this is now doubtful.

MADE GENERAL MANAGER

Standard Turbine Corp., Scio, N. Y., announces the appointment of C. R. Gould as its general manager. Mr. Gould has been identified with turbine manufacture for the past 20 years—most recently with the Kerr Turbine Co. for which firm he served in various capacities such as purchasing agent, treasurer and secretary.

CATALOG ON TRACYFIER

Andrews-Bradshaw Co., Pittsburgh, Pa., has just prepared a 48-page fully illustrated catalog on the Tracyfier. (Tracy Steam Purifier and Tracyfier Gas and Vapor Scrubber.) It covers the necessity for cleaning steam and the benefits to be derived from the use of steam that is entirely free from boiler water or dust. The construction of the Tracyfier is clearly shown and its principles of operation are carefully outlined. The catalog includes a discussion of the effect of boiler water treatment and blow-down on steam quality. A section describes the application of the Tracyfier gas and vapor scrubber.

OCCUPIES NEW BUILDING

The new Eisemann Magneto Co.'s direct factory branch building in Detroit is now being occupied. Ground was broken for the erection of the structure in April, and building operations were completed recently.

REPUBLIC SUPPLY'S NEW STORES

The Republic Supply Co. has opened a new store at Pampa, Tex., as well as a new store at Isom, Tex., to take care of new business in the Panhandle Field.

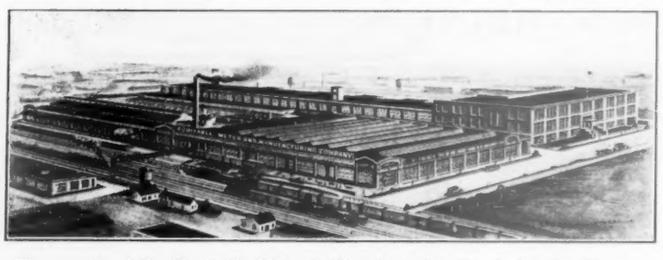
EQUIPMENT NOTES

The Southern California Fishing Tool & Machine Co. has changed its name to Fluid Packed Pump Co. and is established in its new plant at Los Nietos, Calif.

The Cleveland Tractor Co. of Cleveland, Ohio, has mailed out folders describing the new Model K tractor which is specially designed for the oil field trade. The frame of the new machine will be extended 31 inches in front so that a winch can be installed, and a three-speed transmission supplied on the power takeoff.

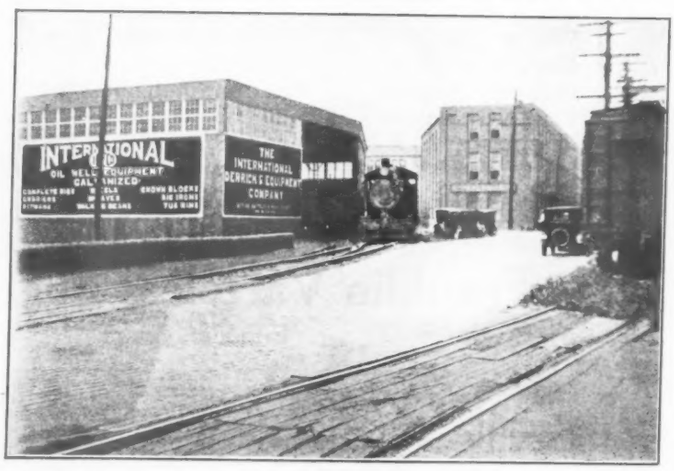
W. C. Trout is in California looking after the interests of the Lufkin line of oil field equipment at the Huntington Beach Field.

NEW HOME OF EQUITABLE METER & MANUFACTURING CO.



The growth of the Equitable Meter & Manufacturing Co. during its 38 years of intimate contact with the gas industry has resulted in the moving of the entire organization and works from Pittsburgh to their new and larger home at Homewood, Pa.

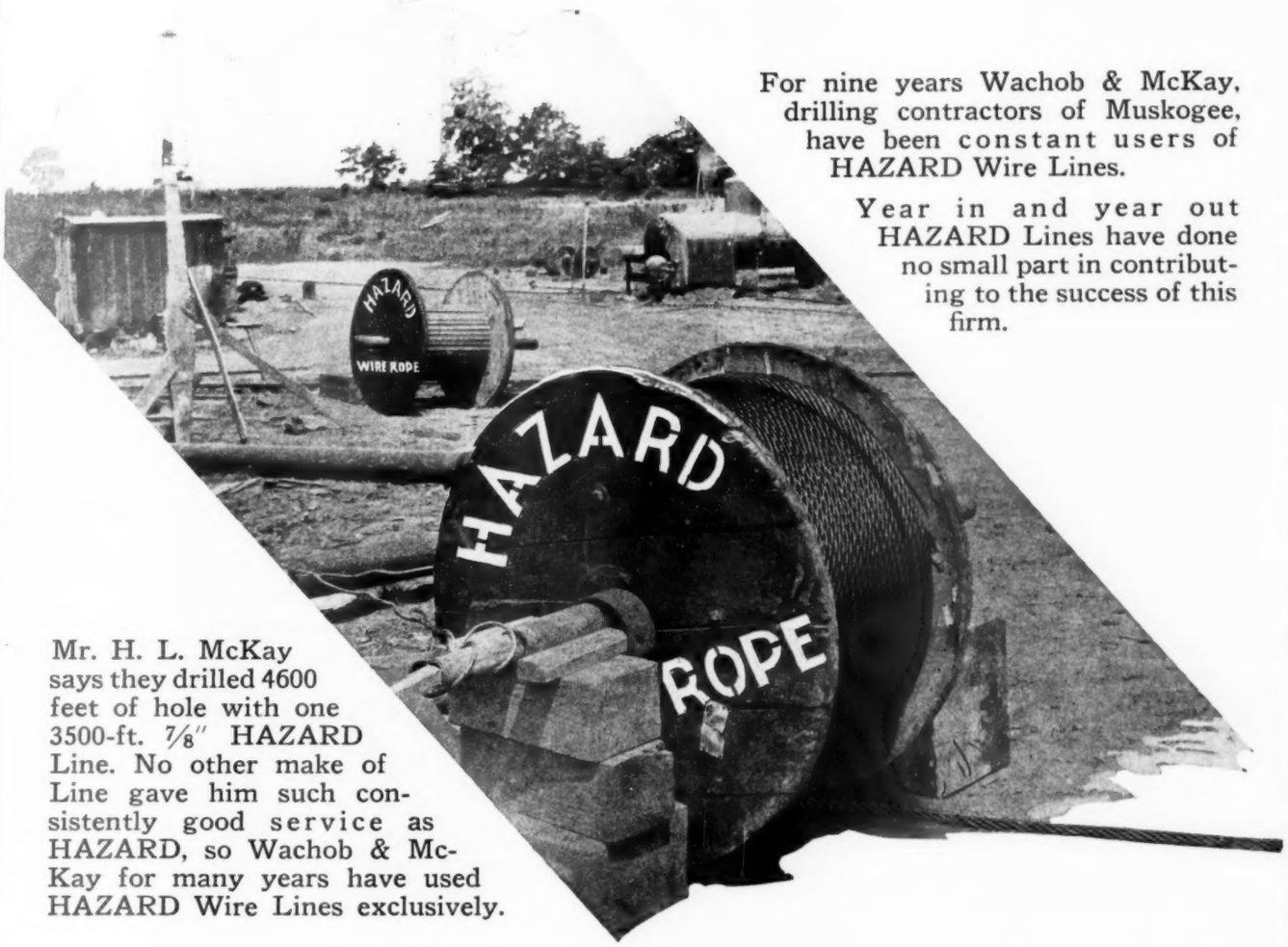
ANOTHER ADDITION TO INTERNATIONAL PLANT



The International Derrick & Equipment Co. has just completed its third addition to the home plant at Columbus, Ohio, this year. The company was forced to build a new wood-working shop this spring for the manufacture of cants for the steel wheel department and for crating material.

A warehouse for storage purposes has also been built. Some idea of its size may be obtained from the fact that the Hocking Valley, Pennsylvania and Big Four Railroads have a spur running through this building which permits a number of cars to be set and loaded under its roof.

HAZARD WIRE LINES
for steady satisfaction



For nine years Wachob & McKay, drilling contractors of Muskogee, have been constant users of HAZARD Wire Lines.

Year in and year out HAZARD Lines have done no small part in contributing to the success of this firm.

Mr. H. L. McKay says they drilled 4600 feet of hole with one 3500-ft. 7/8" HAZARD Line. No other make of Line gave him such consistently good service as HAZARD, so Wachob & McKay for many years have used HAZARD Wire Lines exclusively.

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Natural Gas Developments

LOS ANGELES WANTS NATURAL GAS SERVED

LOS ANGELES, Calif., Aug. 28.—Opposing the applications of the four companies serving Los Angeles with gas for an increase in rates, City Attorney Stephens, County Counsel Mattoon and City Attorneys Howard of Pasadena, Gould of Alhambra, Coffin of Santa Monica, and Baker of Sierra Madre have filed a brief with the California Railroad Commission urging that the companies be required to supply consumers with straight natural gas instead of the present mixed natural and manufactured gas.

The attorneys said there had always been sufficient natural gas since 1915 to meet all domestic requirements; that natural gas has been and is being wasted into the air and that the timidity of the companies in not supplying sufficient pipeline and other facilities is responsible for Southern California not being on a 100 per cent natural gas basis.

The service of straight natural gas would constitute the highest standard of service possible, the briefs contend, justifying the awarding to the companies of a greater rate of return upon invested capital for reaching this high standard, than for serving an inferior product, namely artificial or mixed gas.

"We believe it is well within the power of this commission to make one rate for the service of straight natural gas, contemplating a higher rate of return, and another rate based upon the service of mixed and contemplating a lower rate of return. The principle could be extended further upon the basis of a sliding scale, depending upon the heat content of the gas served. This would introduce no new principle," say the briefs, concluding with the declaration that companies are not entitled to more money if they continue their present inferior service.

FIND PURE METHANE IN CANADIAN SEEPAGE

LETHBRIDGE, Alberta., Aug. 28.—A seepage of natural gas on the so-called Pot Hole structure, in Sections 17 to 20, Township 17-21w4, near Lethbridge, has been investigated by Stanley J. Davies, former Government geologist, at the instance of the city of Lethbridge, with a view to developing a municipal gas supply. Mr. Davies has reported that there is no structure in the Pot Hole area, the rocks showing a dip of from 3 to 5 degrees. There is a small fault in the Pot Hole proper, where a seepage of gas is escaping. This seepage, practically pure methane, would prove that there is gas coming along the fault line from some lower horizon, but there is nothing to enable one to conclude that there is an accumulation of natural gas in this area. Analysis of the gas showed: Carbon dioxide, 0.2 per cent; oxygen, 2.1 per cent; methane, 90.1 per cent; ethane, absent; nitrogen, 7.6 per cent; the oxygen and nitrogen being undoubtedly air.

GAS RATE APPLICATION

CHATHAM, Ont., Aug. 28.—Applications for new natural gas rates for the cities of Edmonton and Calgary, to take effect on the expiration of the present rate agreements this fall, will be heard shortly by the Alberta Public Utilities Commission.

The rates case affecting Calgary and the Canadian Western Natural Gas, Light, Heat & Power Co. is slated to come up for a hearing on September 20. The case affecting the city of Edmonton and Northwestern Utilities, Ltd., will be heard early in November.

At a preliminary hearing recently the Canadian Western company was required to file a statement showing the new rate schedule it desires. This statement was to be filed within 10 days of August 13. The new rates will affect the cities of Calgary and Lethbridge and the towns of Macleod, Granum, Claresholm, Nanton and Okotoks.

SPENDING $1,500,000 FOR BETTER SERVICE

BARTLESVILLE, Okla., Aug. 28.—The natural gas division of the Empire Companies with headquarters here, is expending this summer $1,500,000 in building lines to gas fields and enlarging lines and compressor stations to assure good service next fall and winter. One of the most important steps in this program was the recent completion of a 34-mile extension of the company's gas pipeline system into the Davenport-Depew Field in Lincoln and Creek Counties, Oklahoma, and connecting with the Drumright compressor station, which is being enlarged to handle the increased supply of gas acquired from these fields as well as the Meehan Field west of Cushing. This gas will be available for use at any point on the 3,000-mile pipeline system of the company.

Other extensive improvements are being made at the Petrolia compressor station on the Kansas Natural system near Chanute which supplies Kansas City, Joplin, Topeka, Leavenworth, Lawrence, Atchison, Ottawa and other Kansas and Missouri towns. The company has also just completed overhauling its compressor units at Cambridge, Kans. Additional gathering stations in the Craig Field in Johnson County, Kansas, and in Creek County, Oklahoma, are planned for this year as well as extension of the main transportation lines to take care of increasing demand for the company's service in the Joplin, Mo., and Miami, Okla., districts.

CHEMICAL ENGINEERS MAKE BROAD CLAIMS

MONROE, La., Aug. 28.—After conducting experiments over a period of many months in the secrecy of a laboratory located in the Twin Cities, where natural gas secured from the local gas field was the object of experimentation H. Allison Webster, chemical engineer of Columbia, Tenn., with the aid of J. Shelton Robinson, mechanical engineer of the same city, claims to have succeeded in producing on a quantity scale, oils and alcohol from natural gas and water subjected to the influence of catalysts, pressure and heat.

Mr. Webster stated that the process was susceptible of extensive development and would doubtless become a factor in the consumption of gas from the Monroe gas fields through plants located within this field.

Patents are being applied for through the United States Government Patent Office at Washington, D. C., to safeguard the new process, it is said.

GIVEN PIPELINE PERMIT

LOS ANGELES, Calif., Aug. 28.—The Southern Counties Gas Co. yesterday was granted a blanket permit to lay pipelines in any part of the west end of Huntington Beach in the area formerly restricted against drilling operations. The Southern Counties Gas Co. so far is the only gas company to enter the new field, and already has made considerable progress in starting a system of pipelines.

The revenue of the city of Huntington Beach from gas transported by the Southern Counties Gas Co. in the new field is about $40 a day, it is said. Under an ordinance adopted several months ago, the city exacts 1¼ cents per 1,000 feet of gas transported through lines laid within the city limits.

METHODS OF ESTIMATING NATURAL GAS RESERVE

By Ralph E. Davis*

Engineer and Geologist, Pittsburgh, Pa.

For various commercial reasons, it is important to know the amount of available gas supply including the reserves of old, well-developed fields, like those in Pennsylvania, West Virginia and Ohio, the newer fields such as those in Louisiana and Texas, and undeveloped, potential territory.

The 1918 Income Tax Law and its provisions for discovery value initiated a new phase in the valuation of natural gas. Prior to this time, little consideration had been given to methods of estimating the quantity of gas underground in the various gas fields. The values of gas wells and of new gas-bearing territory were based largely on the open flow gauge of the wells or the capacity of the wells to deliver gas into the open air. The Income Tax Law made it desirable for purposes of depletion and depreciation to estimate with more care the amount of gas which a well or field would ultimately produce.

The fact that gas issues from a well when the pay streak is encountered does not mean that the gas occupies a great open space or cavern beneath the surface of the earth or that it comes from some deep, mysterious, generating mechanism, but rather that it is compressed into the minute spaces between the sand or other mineral grains, or is dissolved under pressure in oil with which it may be associated. The escape of gas to the surface through a well is evidence that pressure exists which, if released, allows the gas to expand or causes it to flow.

The amount of gas in any reservoir at the date the pool is tapped is definite in quantity except for the fact that gas is migratory in character and may move from one place to another or from points of high pressure to those of lower pressure.

In general, the reservoirs which contain gas or oil have certain characteristics which may be briefly outlined as follows:

(1) An upper, relatively impervious layer, commonly shale, lying at some depth below the surface.

(2) An underlying layer of porous rock such as sandstone or limestone.

(3) The above rocks folded in such a way as to form an inverted basin or reservoir from which the gas cannot escape.

Conditions analagous to folding may also be produced in nature by variations in the character of the beds over considerable areas and by means of unconformities.

Gas is commonly measured by an application of Boyle's Law for gases. This law, discovered by Robert Boyle (1627-1691), an English chemist and physicist, reads: "At a constant temperature, the volume of a given quantity of any gas varies inversely as the pressure to which the gas is subjected."

This law may be expressed by the formula.

$$PV = \text{a constant}$$

in which "P" is the pressure and "V" the volume, a formula which is not nearly as formidable as at first appears. Take a container with a volume of one cubic foot. This container is filled with gas at a pressure of one unit of weight which may be considered the pressure at which gas is measured for selling purposes.

If the one cubic foot of gas in the container be gradually compressed by moving the piston downward, the temperature be kept constant, and no gas be permitted to escape, it will be found necessary to increase the pressure to two units of weight in order to move it half way down the cylinder or to such a position that the same amount of gas occupies a volume of only one-half of one cubic foot. The quantity of gas by weight has not changed but the pressure has been doubled and the volume occupied by the gas has been reduced one-half.

Similarly if the pressure on the piston be increased to four units of weight, the volume of the gas will be reduced to one-fourth of one cubic foot. In each case, however, the product of the pressure times the volume will be the same, that is, a constant quantity; thus

1 unit pressure x 1 cu. ft.=1 (a constant)

2 units pressure x ½ cu. ft.=1 (a constant)

4 units pressure x ¼ cu. ft=1 (a constant)

NOTE: (At high pressures, variations in the law not treated in this paper occur which are suceptible of mathematical treatment.)

Looking at the matter in another way, let the gas be in the condition with the pressure four units and the volume one-fourth of one cubic foot. If a pump is connected to a valve near the base of the cylinder and gas pumped into the container, the piston will rise, and if pumping is continued until the piston has risen to the original position it occupied the volume of the space then occupied by the gas will be one cubic foot, but in this case the cubic foot of gas will be under four units of pressure instead of one unit. Hence, there is four times as much gas in the container as at first. This is merely another way of illustrating Boyle's Law which may now be expressed as follows: In a given volume, the quantity of gas present — by weight — is directly proportional to the pressure, or the greater the pressure the greater the amount of gas present, other conditions remaining equal.

Recognition of the fact that the escape of gas from a reservoir is accompanied by a proportional reduction in pressure forms the basis for the estimation of gas reserves underground. For example, if from a given underground reservoir having an original rock pressure of 1,000 pounds per square inch, gas is withdrawn to the amount of fifty billion cubic feet (measured at the selling pressure base) and this withdrawal causes the pressure in the reservoir to decrease to 900 pounds per square inch, the conclusion is drawn that one-tenth of the total amount of gas in the reservoir has been removed. Therefore, the total amount of gas orig-

(Continued on Page 78)

*This article was prepared especially for Taylor, Ewart & Company, Inc., Investment Bankers, Chicago and New York.

LONE STAR BUYS BIG OKLAHOMA GAS HOLDINGS

CHICKASHA, Okla., Aug. 28.—Announcement was made here of the sale of the gas property and field equipment of the Hall-Briscoe company to the Meridian Gas Co. of Dallas, Tex., for $1,000,000. The sale involves 14 gas wells in the Chickasha Field and 28½ miles of 16-inch main gas pipeline and about 14 miles of lateral lines of 8 and 4-inch pipe. The estimated open flow volume of the 14 gas wells, which the company has taken over, is 325,000,000 feet daily. The Meridian Gas Co. was recently organized as a subsidiary of the Lone Star Gas Co. of Dallas to take over these properties. The Lone Star Gas Co. is a big gas producing, transporting and distributing company which sells gas wholesale to Dallas, Fort Worth and about 25 other Texas cities and towns, also to the Southwestern Gas & Fuel Co. at Lawton, Okla., distributes gas at Achille and Durant, Okla., and has a franchise to serve Frederick. The Hall-Briscoe pipeline was constructed last year and connected to the main line of the Lone Star company into Texas.

The Chanslor-Canfield-Midway Oil Company (Santa Fe) well No. 96, at Olinda, California; drilling at over 7,863 feet, August 9th, 1926, (the world's deepest oil well) and still going strong, it being the intention to attain a depth of 8,000 ft. or more, if possible.

DUNN SUPER-SAFETY "ROTARY FLYER" ELEVATORS, and DUNN SUPER-SAFETY ROTARY TONGS are being used exclusively on this well.

Dunn Manufacturing Company
Office and Works: Oxnard, California

Mid-Continent Branch Warehouse:	New York Export Office:
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DUNN SAFETY *means* DONE SAFELY

A Heat Exchanger and Condenser in one

The G-R Sectional Condenser

With two sections, water can be used as the cooling medium in one unit and oil in another, thus providing a condenser and heat exchanger in one set.

Furthermore, a different "cut" or "fractionation" can be made in each section by offsetting the lower vapor connection to the side of the shell and draining the distillate from the sump thus formed in the vapor space.

And note, too, the many operating advantages of this arrangement. Sections can be added or removed to meet varying capacity requirements. The complete unit is readily transported and assembled if necessary to meet changing plant conditions. Inspection and cleaning is greatly facilitated.

THE GRISCOM-RUSSELL CO.

Dept. J, 285 Madison Ave., New York

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EASTERN FIELDS

(Continued from Page 58)

Smith & Co. have started to drill on the P. Weber farm.

In Section 9, Lawrence Township, Washington County, the Braden Oil Co. and Fupey Brothers have completed in the second Cow Run sand a second test on the Harry Felter farm. It is a duster. In Section 24, Jefferson Township, Noble County, Joseph Sailing and others have completed a test on the Caroline Crotton farm and good for 3 bbls. a day in the Berea grit. The rig has been completed for a second test on the same farm.

In Madison Township, Columbiana County, the Natural Gas Co. of West Virginia has a light pumper in the Berea grit at a test on the J. T. Leightner fram. In Section 21, Starr Township, Hocking County, the Martin Oil Co.'s test on the J. W. Crawford farm is dry in the Clinton sand. In Section 5, same township, the Chartiers Oil Co.'s No. 3 on the Robert F. Wolf farm is a very light pumper.

In the northwest quarter of Section 26, Coal Township, Perry County, the Chartiers Oil Co. completed and shot in the Clinton sand No. 200 on the Hocking Valley Products Co.'s property. It produced 110 bbls. the first 24 hours. In the northwest quarter of Section 28, same township, the Big Ten Oil & Gas Co. completed and shot in the same formation No. 3 on the Hazelton heirs' farm. It is good for 30 bbls. a day.

Holmes County

In Killbuck Township, Section 22, Holmes County, the East Ohio Gas Co.'s test on the Christian Miller farm is a duster in the Clinton sand.

Washington County

In Section 10, Lawrence Township, Washington County, the Peoples Banking & Trust Co. has completed No. 16 on the E. D. Rake farm. It is a duster in the second Cow Run sand. On Paw Paw Creek, Section 64, Salem Township, the First National Bank of Lowell has completed in the first Cow Run sand No. 17 on the Peter Pfaff farm. It is not good for more than 2 bbls. a day in the first Cow Run sand.

The West Virginia fields had very few completions at the close of the week. In Grant district, Wetzel County, the Carnegie Natural Gas Co. has a gasser in the Big Injun sand at a test on the J. H. Furbee heirs' farm. In West Union district, Doddridge County, the Clifton Oil & Gas Co.'s test on the Silas Spencer farm is a light gasser. On Green Creek, Walton district, Roane County, the same company has now drilled another test on the G. M. Summers farm through the Big Injun sand and not good for more than 3 or 4 bbls. a day.

Harrison County

In Clark district, Harrison County, Rapp & Nutter have started to drill a test on the G. C. Nutter farm. In Ten Mile district, Orlando West has made a location on the Charles Lanhan farm. In the same district, J. W. Johnston is drilling at 1,600 feet on the Otto O. Westfall farm.

In Elk district, the Vesper Oil Co. is due in the Gordon sand on the Alva Shepler. In the same district, the Grasselli Chemical Co. is still fishing on the Mary Lance farm. The same company is drilling at 1,800 feet on the John H. Stone farm.

In Geary district, Roane County, the United Fuel Gas Co. has completed a test on the J. C. Myers farm, and is a gasser in the Big Injun sand. In the same district, the same company has a gasser in the same formation at a test on the S. R. Farley farm. In the same locality, the Morley Oil & Gas Co.'s test on the Sulphur Springs School lot is also a gasser in the Big Injun sand.

Duster in Wood County

In Union district, Wood County, the South Penn Oil Co. has completed No. 4 on the Grant heirs' farm. It is dry in the Berea grit. In Walker district, the South Penn Oil Co. has the rig completed for No. 8 on the George F. Albright farm. In the same district, the Four S Oil & Gas Co. has the rig completed for a test on the T. C. Moore farm.

In the Big Run Pool, Williams district, Wood County, Reed, Athey & Grant have completed in the second Cow Run sand No. 4 on the George Henri farm. It is a very light pumper. In the Plum Run Pool, same district, O. E. Grow has completed in the First Cow Run sand his No. 10 on the Timothy McAtee farm. It is showing for a 15-bbl. pumper.

Gilmer County

In Center district, Gilmer County, the Hope Natural Gas Co.'s test on the Martha Turner farm is a gasser in the Maxon sand. In the same district, the same company's test on the R. M. Marshall farm is a gasser in the same formation. In DeKalb district, A. E. Ellis & Co.'s second test on the William J. Fling farm is a duster.

In Sheridan district, Calhoun County, Martin Crowley's test on the Bert Haverty farm is a gasser in the Big Injun sand. In Walton district, Roane County, the Bufflick Oil & Gas Co.'s second test on the Taylor heirs' farm is a gasser in the same formation. In the same district, the Clifton Oil & Gas Co.'s No. 3 on the G. M. Summers farm is good for 4 bbls. a day in the Big Injun sand.

In Paw Paw district, Marion County, the Hope Natural Gas Co.'s test on the Enoch Amos farm is a gasser in the gas sand. In Ten Mile district, Harrison County, Burk & Lyons have a gasser in the fifth sand at No. 3 on the W. T. Williams farm.

Located in Smithfield district, Roane County, Douglass Brothers have drilled a second test on the P. C. Adams farm through the Big Injun sand. It is a gasser good for 500,000 feet. On Tanners Run, DeKalb district, in Gilmer County, A. E. Ellis has now drilled his second test on the J. W. Fling farm through the Big Injun sand and dry.

In Church district, Wetzel County, the Carnegie Natural Gas Co. has drilled deeper No. 6 on the Mason heirs' farm and dry in the lower sands. In Carroll district, Lincoln County, the Laurel Development Co.'s second test on the S. W. Lawson farm is a gasser in the Berea grit. In the same district, the W. C. Kingery Gas Co. has a gasser in the same formation at a test on the T. and W. W. Baker farm.

Cabell County

In Grant district, Cabell County, the Aetna Oil & Gas Co.'s test on the Pocahontas Reynolds farm is a gasser in the Berea grit. In Collins Settlement district, Lewis County, the Mudlick Oil & Gas Co. has a gasser in the stray sand below the Gordon at a test on the E. G. Davisson farm. In Union district, Pleasants County, the Tyler Oil Co. has the rig completed for a test on the James Northcraft farm.

Light Pumper

On Laurel Creek, Union district, Wood County, the South Penn Oil Co. has completed in the Berea grit No. 4 on the J. H. Wharton farm and showing for a light pumper. On Poca Fork, Big Sandy district, Kanawha County, the Empire Petroleum Co. has completed in the Big Injun sand a second test on the N. E. Hunt farm. It is a gasser good for 150,000 feet.

Drilling and Starting Tests

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has started to drill a test on the Elizabeth Thomas farm. In Clay district, Wetzel County, the Pittsburgh & West Virginia Gas Co. is drilling a second test on the Amos Jolliffe farm. In Elk district, Harrison County, the Grasselli Chemical Co. is fishing at 2,045 feet on the Leroy Lance farm and drilling at 1,650 feet on the John H. Stone farm. The same company has started to drill on the H. D. Stewart farm. In Clark district, the Hope Natural Gas Co. is rigging up on the C. W. Lynch farm. In Coal district, the Washington Gas Co. has drilled to

(Continued on Page 94)

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METHODS OF ESTIMATING NATURAL GAS RESERVE

(Continued from Page 74)

inally present must have been 500 billion cubic feet. This calculation is based on the assumption that the pressure throughout the entire reservoir was reduced to 900 pounds per square inch. In the case of a large gas field penetrated by a number of wells, it may be found that the early production has been obtained from only a part of the field or pool. In this case the reserves of the production area are determined by use of Boyle's Law and the remainder of the field is judged by a comparison of its wells with those affording production.

The practical application of the above method was illustrated in the appraisal of a West Virginia gas field at the end of 1923. The first two wells in the pool were completed in 1909 with an initial rock pressure of 525 pounds. Other wells drilled during the first succeeding years had almost the same or slightly lower rock pressures depending on their location with reference to the area from which gas was being withdrawn.

Beginning about 1913, the acquisition and preservation of rock pressure readings and production records were further systematized so that when the field was valued in 1924, the average rock pressures and the metered production could be plotted graphically.

Other methods are occasionally useful in estimating gas reserves. One of these is known as the porosity-pressure method which is also based upon Boyle's Law. Another is known as the production decline method. In the first, the area, thickness, porosity of the sand and the pressure are used as factors to determine the amount of gas in a pool. In the second, the future performance of a well or field is based upon its past production and the rate of decline. When the available data permits, reserves are estimated by all methods as a check.

Since the chemical and physical properties of gases are well known and the geologic and dynamic factors which control the accumulation of gas are also understood, it is thus possible, by means of engineering methods, to make sound estimates of natural gas reserves.

CALIFORNIA FIELDS

(Continued from Page 56)

nia and the Marland laying foundations for several derricks at Seal Beach near the site of the 1,200-bbl. wildcat well brought in recently big development of unsettled acreage looms unless opponents of regulations who fear damage to Recreation Park and high class residential acres succeed in having legislation passed which is upheld by the courts.

Inglewood

The Standard Oil Co. of California increased its list of producers in the Inglewood Field as a result of the completion of No. 11 on Vickers Lease No. 2, the well being finished as a 115-bbl. pumper from 2,088 feet. The completion of this well, which was finished with an 8¼-inch oil string landed at 2,082 feet, winds up present development work, although the Standard has rigs going up for No. 7 Stocker and No. 50 on Los Angeles Investment Lease No. 1, either or both of which may be spudded in shortly. The present daily field production is running around 45,000 bbls., the 177 pumpers averaging 216 bbls. daily and the 22 flowing wells 320 bbls. The total daily average well production is 234 bbls.

The Standard is by far the largest producer of crude at Inglewood, this company's pipeline runs being approximately 25,500 bbls. daily. The Petroleum Securities, with 8,000 bbls., the Associated with 6,000 bbls. and the Shell with 3,500 bbls. daily follow in the order named. The California Petroleum, Oscar Howard, Brownmoor Oil Co. and Mohawk round out the remaining 2,000 bbls. There has been no change in the development program of the Union or Shell at Dominguez, each of the companies running two strings of tools at the present time. Nos. 31 and 33 are the only two active drillers on the Reyes property, the largest undeveloped tract in the field and, although both are expected to go on production within the next 30 days, their completion will probably not be noticeable in the total field output. The Shell is still producing from No. 101 Reyes, the key well which is to be utilized as the gas receiver in a five spot system which consists of introducing dry gas into a central well under high pressure in order to stimulate production in four other wells drilled equal distances apart and around the receiver.

The Chanslor-Canfield Midway Oil Co., continuing its aggressive drilling policy in the Torrance Field, finished No. 57 Del Amo and immediately spudded in another new hole, No. 55, on the same lease. The company's latest completion, drilled to 3,500 feet and finished with an 8¼-inch oil string, was on a par with recent completions, the initial output in this instance being 180 bbls. of 18.9 gravity oil daily. The Shell also finished a new producer, No. 14 Del Amo, but it was an unusually small one, the initial pumping being 25 bbls. from an even 3,600 feet. The Barnsdall has cemented the 8¼-inch in No. 13 O'Dea in the Rosecrans Field at 4,770 feet and has landed a similar string in No. 14, on the same lease at 4,681 feet. Both should be drilled out before the close of the current week and each should result in a satisfactory completion. The Union is abandoning No. 1 Trust, a deep test drilled to 6,285 feet, because of the rather unfavorable outlook in the southern part of the field.

Seal Beach

Work has been going along rather slowly in the Seal Beach area, due not to any apathy on the part of either the Marland or Standard companies, which concerns hold practically all the potential oil land, but rather because of the fact that a considerable part of the leases involved was formerly a marsh and below sea level. Because of this marshy condition a considerable amount of preliminary work has been found necessary before any more drilling gets under way. Both the Standard and Marland companies are building corduroy roads which consist of heavy timbers laid across the roadway in order that the necessary rig material and drilling equipment may be moved in.

It has also been found necessary to drive down a pile foundation upon which to build the rigs and consequently drilling work is getting under way rather slowly. Upon completion of adequate roads, however, things will move along rapidly. The Marland's discovery well in this area is holding up very remarkably, the present production being 1,220 bbls. daily. The Union's No. 1 Bryant, northeast of the discovery and apparently off structure, is rotating ahead in a gray sand and brown shale at 5,220 feet. Now that the Seal Beach Field has been definitely located and proven to lie north and west of the discovery well, wildcatters are beginning to look with favor upon that area lying between Seal Beach and Huntington Beach. Attention was directed to the possibilities of this territory in The Oil and Gas Journal several weeks ago and, in view of the fact that the Marland has leased up 500 acres, the Standard 700 acres, the Shell 500 acres and the General Petroleum 300 acres, it is quite likely that one of these concerns will undertake early work.

The holdings of these companies extend all the way from the northern limits of Huntington Beach to the southeastern limits of the new Seal Beach Field and this area, which lies inland from Sunset Beach, is blocked out solidly by these four companies. In view of the fact that the Marland has kept at least one wildcat under way continuously since it entered California a few years ago, it is logical to assume that either this company or the Shell will undertake to prove up or disprove the area in question. Because of the location of the Shell and Marland's holdings, it is to be hoped that they will collaborate, as one test by each advantageously located will prove a very interesting contribution to the geology of this section and may open up a new field or find an extension.

The McCaslin Oil Co.'s No. 1 Patton-Gregg, in the Rideout Heights section of the Whittier Field, has shown a steady increase in production since completion and this well, which failed to secure commercial production at 1,345 feet because of much water trouble, is pumping 140 bbls. at the present time after being plugged back to the comparatively shallow depth of 830 feet. The Patton-Gregg lease comprises 20 acres near the holdings of the Pan American and Petroleum Securities, both of which are being prospected for deep production. The sand from which the McCaslin is producing was drilled through several years ago and received little or no attention as it was thought to be an unproductive tar sand. No. 1 Patton-Gregg, which is producing a clean 14.5 gravity oil, will be offset immediately in the shallow zone.

The Chanslor-Canfield Midway Oil Co. is only about 40 feet above the 8,000-foot level in No. 96 Olinda, at Fullerton and, although drilling is scheduled to be suspended at that point, work may be continued as there is a slight possibility of picking up an oil sand under the present brown shale. The company has not changed its intention of quitting at 8,000 feet, however, but may continue work if conditions are favorable. S. H. Keoughan, trustee for the Continental Petroleum, has No. 2 Kraemer in the Richfield district in an excellent looking oil sand with good prospects for another nice well within the next few weeks. The General Petroleum spudded in No. 2-A Tonner early in the week and is now running three strings of tools at Fullerton, one at Richfield and has locations staked in the latter district for No. 4 Hugo and Nos. 7 and 8 on the Stern lease. The Shell is also making preparations for additional work and will augment its five drillers in the Fullerton district by spudding in No. 5 Fisher and No. 2 Puente in the near future.

Big Well in Ventura Avenue

The General Petroleum was the recipient of an excellent well in the Ventura Avenue Field during the early part of the week when No. 9 Notten blew in doing 3,760 bbls. of 31.4 gravity oil daily and approximately 9,000,000 feet of unusually wet gas which is running about 2 gallons of casinghead gasoline per 1,000 feet. This well was originally completed as a 1,503-bbl. producer in September, 1925, but due to the drop in production subsequent to that time, it was deepened from 4,905 feet to 5,950 feet, from which point it is at present producing. No. 9 Notten, which is at the present time flowing through a 1½-inch bean under a pressure of 810 pounds, is producing under a severe handicap as there is approximately 5,970 feet of drill pipe in the hole. Judging by the present status of Nos. 1-A, 2, 5-A, 6 and 8 on the Barnard property, it will probably be another 30 days before the General Petroleum will be in a position to add any further producers to its list.

The Associated and Shell, however, should contribute several new wells during the intervening period. The former should finish Nos. 17, 18 and 33 on the Lloyd lease within the next 30 days, while the latter should, barring mechanical trouble, bring in No. 8 Edison, No. 11 Gosnell and No. 13 Taylor. These six wells are all located in proven territory and should be good for an average initial daily production of about 2,000 bbls. each. Both companies will follow these completions with several more, as the Associated is running 12 strings of tools, while the Shell is working on 10 potential producers. Judging by the number of new rigs already up and those expected to be erected during the next 60 days, it does not look as though there will be any cessation of work in this district during the coming winter months.

Production to 7,000 Feet

The Petroleum Securities has not yet picked up the pay in No. 1 Willett, which is down to 5,275 feet, but should do so around the 5,700-foot level. This well, together with No. 1 Orton, both in the southern part of the field, are going along nicely. The extreme depths at which production is secured in the Ventura Avenue Field and the unusually large amount of gas encountered is a source of considerable interest not only to operators in California, but to the industry in general. It is a well-known fact that none of the operators in the Ventura Avenue Field have yet drilled entirely through the deep sand in that district due to the high gas pressure which makes work hazardous, and J. E. Eaton, a prominent Los Angeles consulting geologist, in a recent conversation with the writer, stated that in his opinion it appears quite probable an almost continuous producing horizon will occur down to 7,000 feet or more. On a large monocline east of the field, a considerable thickness of Pico sands (lower Fernando) are exposed below the deepest productive horizon developed in the field to date and, while there is some faulting in this particular area, it is quite probable that production in the Ventura Avenue Field may be secured considerably deeper than 7,000 feet.

While on the subject of deep drilling it would not be amiss to call attention to the fact that E. J. Miley's No. 6, in the Rosecrans Field, is still the deepest oil producer in the world. This well is producing from a depth of 7,591 feet and, while Mr. Miley will probably retain this honor for some time yet, it is highly probable that this record will be surpassed within the next two or three years. The Union and Barnsdall have much more favorably located acreage at Rosecrans which warrants deep drilling, as much better results could be expected, while the Associated, Shell and General Petroleum have excellent possibilities of establishing new records for deep production in the Ventura Avenue Field. Long Beach perhaps offers more possibilities for developing deep production and it is highly probable that some work along this line will be undertaken in the near future, as the chance of securing commercial production in the center of the old field is quite favorable.

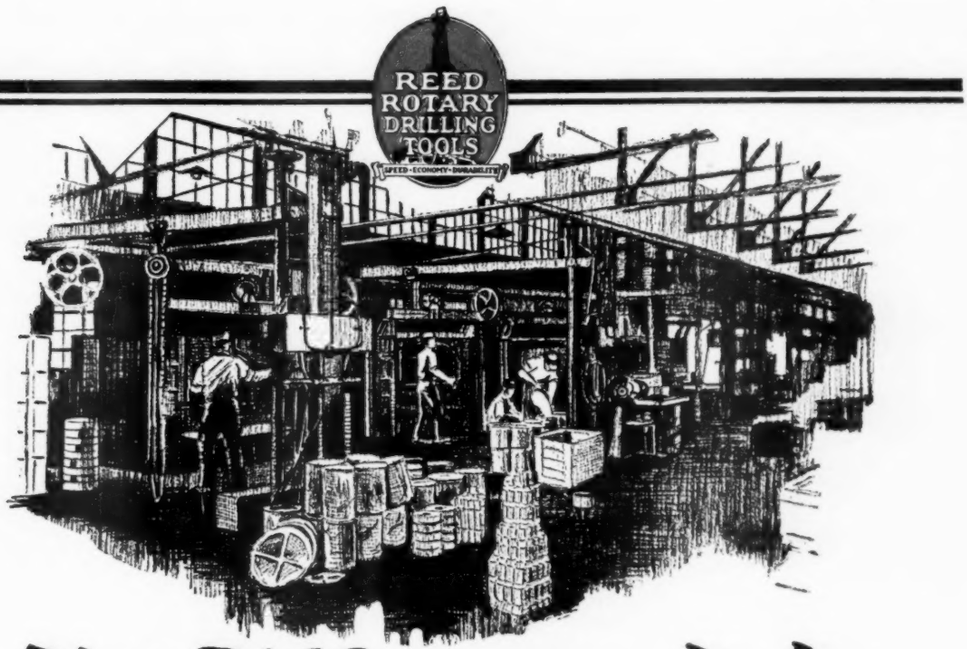
Midway-Sunset

The Honolulu Consolidated added two new wells to its list of producers in the Midway-Sunset Field during the past week, each of them being good for 100 bbls. daily. No. 75, in Section 4-32-24, was brought in from 2,900 feet, while No. 76, in Section 6-32-24, is producing from 2,901 feet. Standard's No. 12, in Section 21-32-24, was a 25-bbl. pumper upon completion at 3,122 feet, while No. 52, in Section 31-12-23, increased the company's production 20 bbls. a day when put on the pump at 1,900 feet. The Union is not yet in a position to make a production test of the brown shale in No. 1 Houchin, Section 10-11-23, and, while the formation seems to be dipping quite rapidly at this point, it is believed another 200 feet of hole will assure the well of production at 5,500 feet. The company's No. 1 Boss, approximately half a mile north of No. 1 Houchin, has just passed the 4,790-foot level. The Standard's Rass lease in this vicinity is productive at 5,200 feet.

Southern California Wildcats

Neither the Standard's No. 1 University nor No. 1 Sesnon of the Petroleum Securities, both in the San Fernando Valley, showed any encouragement during the week, although each of course made additional footage. The Associated's No. 1 Cypress, which has just passed the 2,800-foot level, might bear watching during the next two or three weeks, as it is located on a nice looking structure near Inglewood and may open up a new field at this point. The well has not shown anything to warrant the expectation of discovering a new field but if it is to be successful the log should show a little gas and some upper showings very soon.

The Smith Petroleum Co. is making unusually rapid footage in its Hawthorne wildcat, No. 1 Johnson, and unless mechanical trouble retards further progress, the well should enter the interesting stage within the next 10 days. George W. John-



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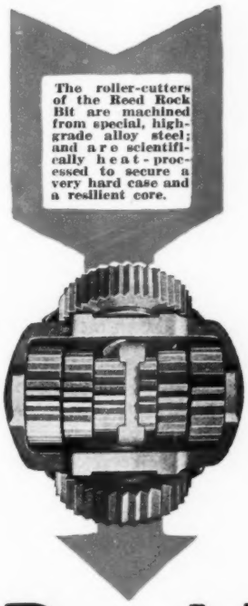
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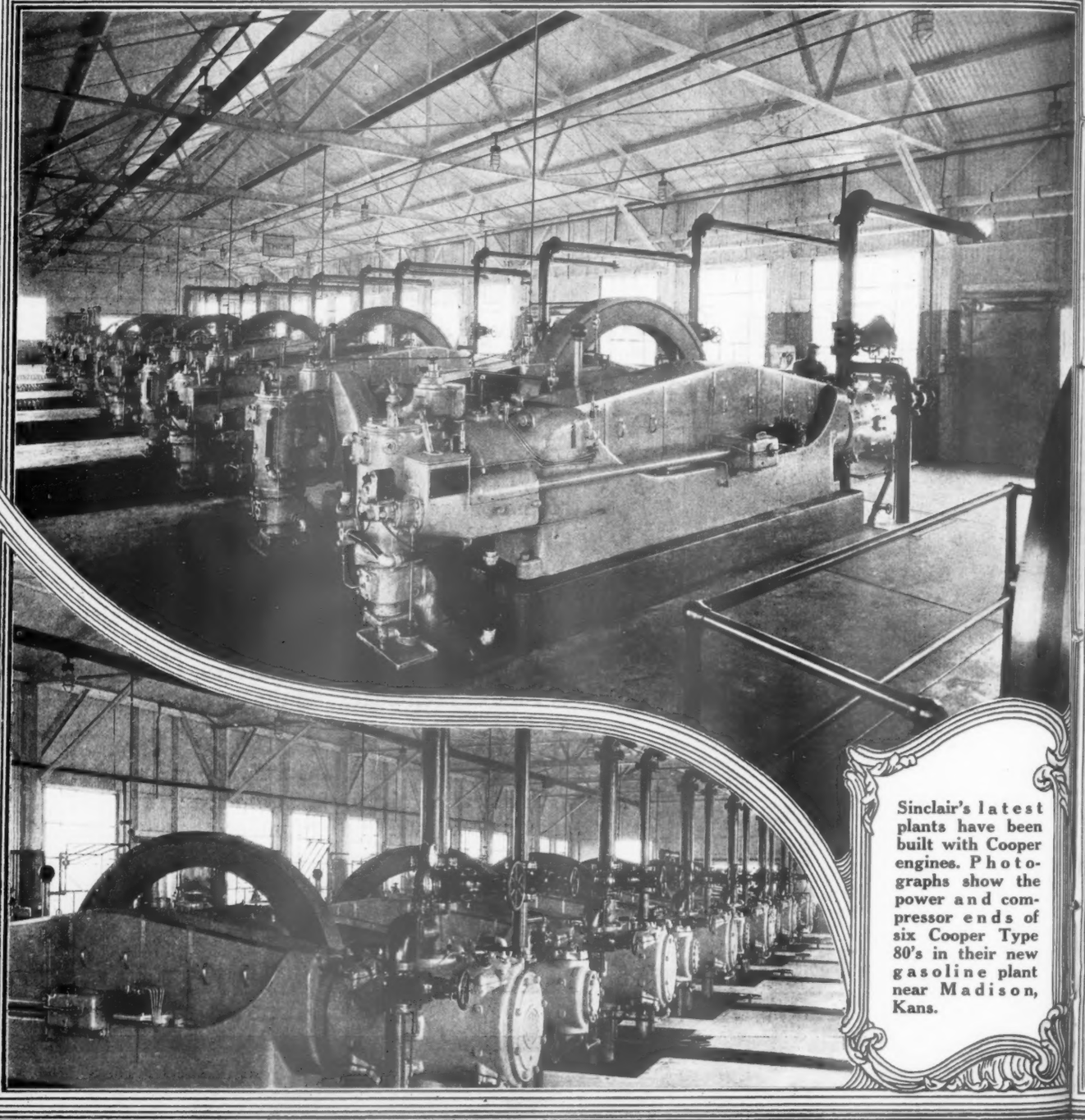

Sinclair's latest plants have been built with Cooper engines. Photographs show the power and compressor ends of six Cooper Type 80's in their new gasoline plant near Madison, Kans.

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Such an opinion is not at all unusual for a man who has used Cooper engines along with nearly every other make for as long as this man has. In fact, those who feel the same way are now getting so numerous that the recently enlarged Cooper plant has again been unable to build engines fast enough to take care of the demand.

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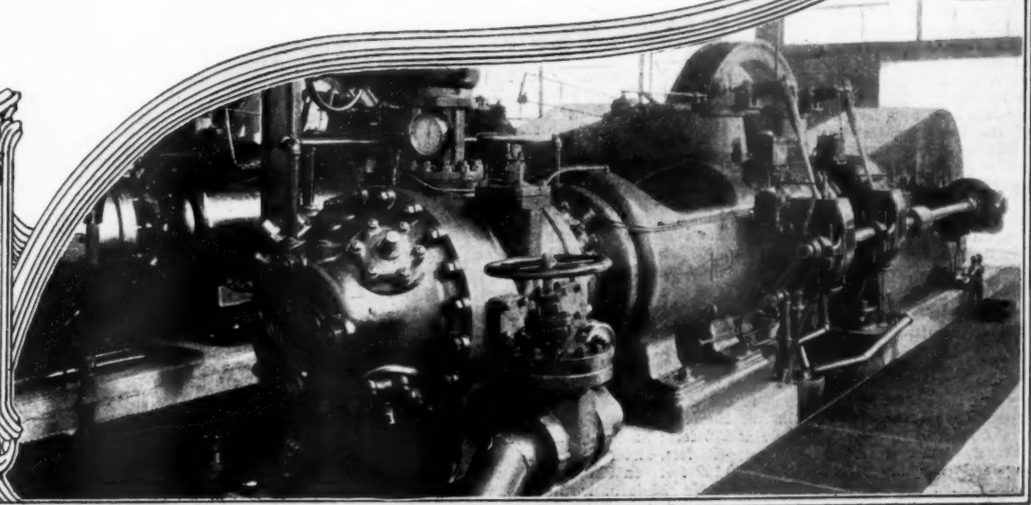

The Cooper Type 19 twin cylinder, 200 B.H.P., double-acting engine driving back connected compressors in South Penn Oil Co.'s Yawkey, W. Va., compressor station.

son is pulling out of the Manhattan-Hermosa Beach area due to the absence of a well-defined oil zone and the inability to shut off water. It is generally believed that the lenses of oil sand in this vicinity cannot be segregated from the water sand and, since this belief is becoming quite general, it is probable that further work will be dropped. This area might warrant the drilling of another wildcat, possibly in either Section 20 or 21-3-14, as the now productive Seal Beach district was not much more promising previous to the completion of the discovery well.

Northern California Wildcats

The Marland Oil Co. has suspended drilling on No. 1 Lazard in Kern County, Section 27-26-20, and will abandon the hole as unproductive at 5,480 feet. The Marland also quit-claimed 1,679 acres in the San Lucas area during the week but, since this acreage was of an extremely wildcat nature, the decision to surrender it did not come as a surprise. Woodward & Sheedy have just leased 120 acres of prospective oil land in the Kimberlina district on Lerdo Mesa and, while the lease does not call for drilling within two years, a location has already been staked. The General Petroleum also acquired some acreage in this vicinity, a lease having just been secured on 60 acres offsetting Woodward & Sheedy's holdings in Section 28-27-26. Considerable leasing is still going on in and around Famosa, the General Petroleum, Chanslor-Canfield Midway Oil Co. and Honolulu Consolidated recently adding to their holdings by acquiring acreage in Section 7-27-27.

None of the wildcats being drilled in northern California showed any promising indications during the past 7-day period and with one or two holes started, it begins to look as though wildcatters will continue work during the coming winter. The Milham Exploration Co. has located a well in Section 8-28-23 in order to test out its holdings in that vicinity acquired about a year or so ago. The Walklin Petroleum is also making preparations to start work on a new test, which will be located near Delano on a 500-acre lease in Section 26-24-26. The Associated abandoned its first survey structure hole in the Huron district, Fresno County, and has a rig up for the second.

The Bolsa Chica's test in the Kettleman Hills is rotating ahead in a sandy blue shale at 2,258 feet, there being no showings of any kind reported at this depth. The Rio Grande Oil Co. reports a slight showing of gas in No. 1 Canet in Ventura County at 1,122 feet but was only of a minor character and drilling is continuing. The Shell's No. 1 Berlywood, at Moorpark, has all the earmarks of a duster at 5,405 feet and an early abandonment would not be surprising. The Pyramid Oil Co.'s No. 1 Trescony, in Monterey County, has had appreciable showings of gas for the past 500 feet but so far no oil colors have been logged. No. 1 White, of the Pan American, a wildcat, also in Monterey County, is rotating ahead in a hard sandy shale at 2,168 feet. The Shell expects to develop production in its No. 1 Murphy near Petaluma around 2,500 feet and if the company is to be successful, something definite along this line should be found very shortly as the well has just passed the 2,306-foot level.

Conditions Favorable During July

As was anticipated, operators drew on stocks during the month of July and will probably do likewise during August as gasoline consumption and tanker liftings have been quite large during this period to date. September is also a fairly good month in California and it is quite possible that a further draft on stocks will be made during this period unless crude oil production takes an appreciable jump in the meantime. State production during July, by the way, was 4,362 bbls. less than the daily output during June due to an almost general decline, the largest drop being registered by Inglewood, which fell off from 49,479 bbls. daily during June, to 46,504 bbls. during July. Long Beach, Huntington Beach and Dominguez just about held their own, while the Ventura Avenue Field, due to additional development work, was up from 40,248 bbls. daily during June to 43,025 bbls. during July. August production will probably average somewhere around 607,000 bbls. daily, while the output in September is expected to average approximately 610,000 bbls. daily.

Total fluid stocks on the Pacific Coast were reduced 2,512,588 bbls. during July, practically every commodity being lower at the close of the month. Refiners and pipeline companies withdrew 1,792,123 bbls. of light oil and 711,878 bbls. of heavy crude and fuel oil from storage during the period in question. Increased Pacific Coast consumption and large tanker shipments of gasoline resulted in a decrease of 315,589 bbls. in gasoline stocks and a withdrawal of 257,730 bbls. of tops from storage. The total fluid stocks of 148,001,772 bbls. on hand at the close of July consisted of 88,362,629 bbls. of heavy crude and fuel oil, 33,548,115 bbls. of refining crude, 10,540,418 bbls. of gasoline, 4,955,313 bbls. of naphtha distillates, tops and 10,685,297 bbls. of kerosene, mineral oils, asphalt and other fluid stocks. Drilling wells, completions, initial production of new wells and number of producers were about on a par with corresponding figures during June, the month just previous.

MEXICAN FIELDS

(Continued from Page 46)

Mexican Gulf Oil Co.'s No. 22 Flores has cemented 8-inch in gray lime at 1,119 feet and its No. 18 Piedras is in shale at 350 feet. Transcontinental Petroleum Co.'s No. 218, Lot 4 Cacalilao, is bailing hole at 1,860 feet, lime; its No. 247, same, is in lime at 2,151 feet; its No. 263 has cemented 8-inch in the San Felipe at 1,300 feet, and No. 273 is in shale at 300 feet. In the Panuco sector, Transcontinental's No. 34 Barbarena is in sand at 50 feet and its No. 25 Delicias is in shale at 940 feet. Mordelo Vincent's No. 29, Lot 14 W. Maguabes, is in the San Felipe at 1,640 feet.

Ebano-Limon

In the Ebano sector, Mexican Petroleum Co.'s operations follow: No. 9 is in gray shale at 1,375 feet; No. 47 Chijol is in white lime at 1,950 feet; No. 49 is in gray lime at 1,410 feet; No. 43 La Dicha is in hard gray lime at 1,760 feet; No. 108 is in gray shale at 1,175 feet; No. 9 Mendez is in gray lime at 1,840 feet; No. 101 Conteca is in gray lime at 1,980 feet; No. 103 is in white lime at 1,960 feet; No. 104 is in gray lime at 1,365 feet; No. 106 is in gray lime at 1,560 feet. And there is a dearth of permits for some half dozen other tests.

National Lines' operations in its right of way through the Ebano follow: No. 101 is in gray lime at 2,000 feet; No. 105 is in the Tamasopa at 2,075 feet and No. 106 is in gray lime at 1,540 feet, all three tests belonging to the Conteca division.

In Limon Cit. Pet. Franco Espanola's No. 33-A Limon is in shale at 1,120 feet; No. 60-A has shut down in lime at 2,910 feet; Nos. 62 and 64 are each in lime at 2,185 and 2,250 feet, respectively.

South Fields

In the south fields, Huasteca Petroleum Co.'s operations follow: No. 70 Cerro Azul is in blue shale at 1,780 feet; No. 80 is passed the spudding stage and at a nominal depth; No. 82 has cemented 10-inch in blue shale at 1,750 feet. In Tierra Blanca, Huasteca's No. 74 is in brown shale at 370 feet; its No. 80 is in brown shale at 400 feet, and No. 81 is in gray lime at 2,122 feet. In Chapopote Nunez, Huasteca's No. 15 is in hard gray lime shale at 2,153 feet. Cortez Oil Corp.'s No. 7, Lot 199 Amatlan, has cemented 8-inch in hard gray shale at 1,996 feet; and up in the Aguada, Cortez has its No. 13, Lot 257, rigged waiting for a permit. Mexican Eagle Oil Co.'s No. 17 San Geronimo is in lime shells at 2,196 feet; its No. 51, Lot 132 Chinampa, is in sticky shale at 607 feet; and its No. 37 Furbero, well south of the Tuxpam River, is in hard gray shale at 3,003 feet.

Northern Miscellany

In Los Esteros, American International Fuel Co.'s No. 31 is in gray lime at 3,082 feet; No. 33 is in gray lime at 1,317 feet; No. 34 is in brown lime at 1,518 feet, and No. 36 is moving in.

In Corcovado, La Corona Petroleum Co.'s No. 25, Lot 6, is in gray lime at 2,120 feet; No. 26, same, has cemented 8-inch in gray lime at 1,139 feet. Leonard and others' No. 6, Lot 1 Garruche (Corcovado) is in gray shale around 830 feet. Mexican Gulf Oil Co.'s No. 48 Chapacao has cemented 8-inch in gray lime at 1,150 feet. Rich Mex Oil Co.'s No. 6, Lot D, is in gray lime at 1,910 feet.

In the Topila district the following obtains: La Corona Petroleum Co.'s No. 21 is fishing in the Tamasopa limestone at 2,706 feet. Cochrane and others' No. 13, Lot 20 Paciencia de Aguacate, is in brown lime at 2,485 feet, with a fishing job. Cia. Pet. Financiera's No. 4, Lot 14 Paciencia de Aguacate, has cemented 8-inch in gray lime at 1,660 feet. Globe Petroleum Co.'s No. 1, Lot 80 Quebrache is spudding; and its No. 9, same lot, is drilled 600 feet, but is having trouble with a falling boulder at 350 feet. Ita Mex Oil Co.'s No. 23 La Mula has cemented 8-inch in gray lime at 1,772 feet. The Texas Company's No. 1, Lot 19 Paciencia de Aguacate, has cemented 8-inch in gray lime at 1,643 feet. Mexican Fuel Co.'s No. 23 Santa Fe is in gray lime at 2,840 feet.

In its federal zone tests, National Lines' operations schedule as follows: Panuco River's No. 84 Halcon is in blue limey shale at 1,010 feet; No. 46 Tanchicuin is in gray lime at 1,610 feet, and there is no change in the status of its other rigs. Tamesi River's No. 63 Altamira is cementing 8-inch in gray lime at 1,100 feet, and three more derricks are up over locations; and its No. 71 Chapacao is also a derrick. Rich Mex Oil Co.'s No. 2, Lot 26 Altamira, is in shale at 850 feet, and its No. 10, same lot, is spudding.

In Caracol, Venable and others have a big gasser in their No. 50, which, at 2,185 feet, presumably Tamasopa limestone, is blowing say 5,000,000 feet with some little oil showing. It is shut down for observation. Mexican Petroleum Co.'s No. H-6 Caracol is in gray lime at 2,090 feet, and No. H-9 has cemented 8-inch in a similar formation at 1,702 feet.

CANADIAN FIELDS

(Continued from Page 54)

ing in a lime formation at 3,765 feet, having encountered traces of light green crude in the last 200 feet of drilling. All the gas has been shut off by the 10-inch casing, which was set at 3,446 feet, making the longest string of 10-inch in Canada. The drill apparently has not yet entered the Madison limestone.

Cooper-Nanton Oils, LSD 2, Section 7-20-2w5, is reported at 3,100 feet and shut down waiting for a new drilling cable.

McLeod Oil Co.'s No. 2 is fishing for a lost bit. The hole is being cleared of fragments of cable preparatory to grappling the tools stuck in the deep lime. When the bit was loosened the gas flow increased temporarily to 17,000,000 feet a day, and the drillers are looking for a big production if the hole can be cleared.

Close to Results

Vulcan Oils, Ltd.'s No. 1, LSD 11, Section 13-20-3w5, is drilling past the lost bit and is within a few feet of the original level of 4,890 feet. At this depth the test is reported 44 feet in the Madison limestone. If the tools can not be recovered an effort will be made to drill past them to the producing horizon in the dolomite. Shareholders of the company held their annual meeting recently at Vulcan, Alta., when the following officers were re-elected: A. G. Spooner, president; Dr. G. M. Carsen, vice president; A. J. Flood, secretary-treasurer; H. R. Spooner, L. H. Stack, W. G. Petersen and D. C. Jones, directors. The financial statement of the company shows total receipts of $207,306.05, including $194,989 from the sale of stock. Expenditures aggregate $148,416.29, with a balance on hand of $58,890.36 in cash or provincial savings certificates. Plant and equipment is placed at $43,102.80, while the cost of the well and casing is estimated at $91,258. The casing cost $49,058.63. The test, which is now the deepest in the field, should get results with between 100 and 200 feet of additional drilling.

Illinois-Alberta Oil & Refining Co., LSD 14, Section 12-20-3w5, is waiting for a diamond drill outfit, which has been shipped from Chicago. From the present depth of 3,678 feet the hole will be continued as a diamond drill test.

Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, is at 3,560 feet and drilling steadily, having got past the lost bit. The hole is caving a little, but casing cannot be set till the drillers are certain they are in the limestone capping on top of the Madison. Dalhousie No. 3, LSD 10, Section 13-20-3w5, is fishing the remaining 800 feet of the 8¼-inch casing, 2,240 feet of which have already been pulled. Dalhousie No. 5, LSD 16, Section 30-19-2w5, is drilling for the 12½-inch casing at 1,520 feet, after setting the 15½-inch.

New Black Diamond Oil Co.'s No. 1, LSD 1, Section 3-20-3w5, is drilling at 700 feet and running double tour. The test got considerable gas at the 515-foot level. Dallas Oil Co.'s No. 1, LSD 11, Section 20-19-2w5, is drilling in a very hard formation at 2,860 feet. Okalta Oils, Ltd.'s LSD 1, Section 1-20-3w5, is reported working on derrick.

Calmont Oils, Ltd., LSD 2, Section 1-20-3w5, has set the 12½-inch casing at 1,205 feet and is drilling below 1,380 feet in a hard formation with an open hole. Dutch Canadian Oil Co., LSD 14, Section 4-19-2w5, has finished clearing its 4,327-foot hole of mud and is grappling for the cable on the end of a string of lost fishing tools. The hole is cased 3,040 feet, and some gas is coming from a horizon 200 feet lower. One string of fishing tools has been recovered, and two other strings, and a lost bit, are in the bottom of the hole.

British Dominion's No. 1, LSD 4, Section 5-20-2w5, is at 1,400 feet and drilling. New McDougall-Segur Oil Co., LSD 14, Section 12-20-3w5, is drilling at 1,950 feet. New Valley Oil Co., LSD 4, Section 6 21-2w5, is drilling at 500 feet. Seneca Oils, LSD 1, Section 34-20-3w5, is drilling in the upper horizons. Sentinel Oils, Ltd., Section 8-20-3w5, is drilling.

Amalgamate Their Holdings

Dolomite Oils, Ltd., LSD 8, Section 1-20-3w5, is working on derrick with some of the machinery on the ground and the balance shipped. Stockmen's Oils, Ltd. and Henderson Petroleum, Ltd. have amalgamated, the assets of the latter, capitalized at $250,000, being transferred to the former, which will continue its original capitalization of $750,000. Both companies have holdings in Section 27-20-3w5. Stockmen's Oils, Ltd. is drilling at 300 feet, after cementing the 20-inch casing at 250 feet. Henderson Petroleums, LSD 7, same section, has the derrick up and equipment complete but will await results in the Stockmen's test.

Mid-Valley Oils, LSD 12, Section 5-20-2w5, is working on derrick and camp buildings. The test will be drilled by contract. Angus Oils, Ltd. has located a test in LSD 3, Section 3-21-4w5. A standard outfit will be used, the test, in charge of Pearson & Davies of Calgary, to spud in October 1. Most of the equipment is on the ground. Ranger Oil Co. has located No. 2 test in LSD 8, Section 1-20-3w5. This company already has a No. 1 location in LSD 4, Section 6-18-2w5, on the Sinclair structure.

Royalite Oil Co.'s No. 5, LSD 13, Section 7-20-2w5, is at 3,527 feet and drilling steadily. The drill is not yet in

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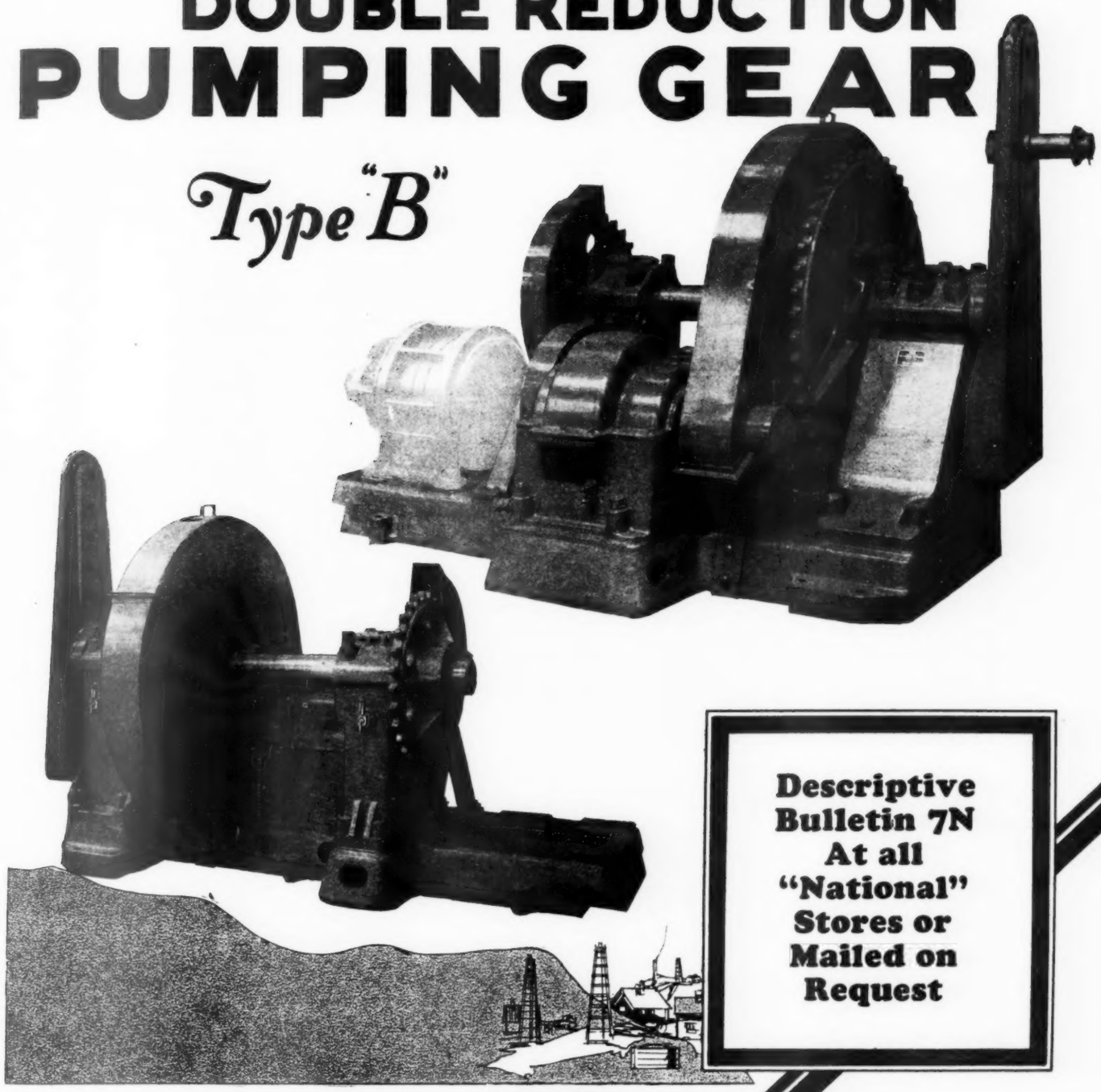

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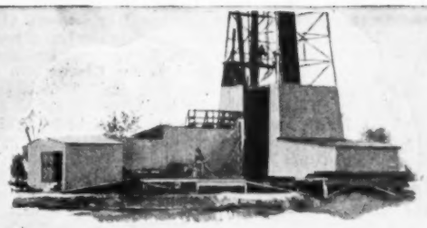

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the Madison limestone. Royalite's No. 6, LSD 16, Section 31-19-2w5, is drilling at 3,060 feet.

Outside the Turner Valley, Imperial Oil, Ltd. is drilling on five tests, including the Erickson Coulee No. 1 gasser. In the Highwood district, Imperial-Highwood's No. 1, LSD 3, Section 36-18-3w5, has spudded in. In the Jumping Pound district, 25 miles west of Calgary, Imperial-Bow River's No. 1 LSD 15, Section 12-25-5w5, is down 3,417 feet and drilling. In the southern foothills, west of Nanton, Imperial-Rice Creek's No. 1, Section 4-14-2w5, is drilling at 4,655 feet.

In the Bow Island Field, Imperial-Burdett's No. 1, Section 8-11-11w4, is down 1,660 feet with a rotary test.

On the Ribstone structure, east of Edmonton, Imperial-Ribstone's No. 1, Section 5-45-1w4, is reported rigged up ready to spud in. On the same structure, Ribstone Oils, LSD 1, Section 1-46-1w4, which spudded in recently is busy cribbing through the surface gravel. Advance No. 3, LSD 1, Section 16-45-1w4, is rigged up ready to spud in.

In the Wainwright Field

In the Wainwright Field, east of Edmonton, Western Consolidated's No. 2, Section 30-45-6w4, after cementing casing at 2,219 feet, is being drilled in. Cores of the oil sand taken before cementing indicate a good producer with probably enough gas to make a flowing well. When No. 2 is finished, work will be resumed on No. 1, LSD 8, Section 20-45-6w4, now shut down at 1,450 feet. It is possible that one or other of these tests will be carried to the deeper horizons in the hope of getting lighter oil. The present sand in No. 2 indicates a heavy crude, possibly 22 Beaume.

Emerald Oils, Ltd., LSD 8, Section 30-45-6w4, which failed to get commercial production at 2,100 feet, is being drilled deeper. Ribstone-Wainwright Oil Co. of Calgary will drill on Western Consolidated leases, and has located a test in LSD 13, Section 14-45-6w4, at a point higher on the structure than any of the present producers. Mewasin Oils, LSD 7, Section 30-45-6w4, is waiting for equipment.

Air Full of Rumors

Reports are in circulation that the Union Oil Co. and California Petroleums, Ltd., are investigating the possibilities of the Wainwright Field and the Ribstone-Blackfoot structure, and may take over some of the companies now operating in these fields. It is reported that majority shareholders of British Petroleums, Ltd. are negotiating with the Union Oil Co. at Vancouver, B. C., and that the Union may take over the British Petroleums Co.'s leases, wells and production. The British Petroleums, Ltd. has several wells with a fair potential production of asphaltic crude. It was the pioneer oil company, drilling the first producing oil well in the Wainwright Field. Its wells include No. 1, gasser, and Nos. 2, 3, 3-B and 4, all of which got the oil sands and three of which are more or less productive. No. 5 is partly rigged up. The British Petroleums holds extensive acreage in the Wainwright Field. Union Oil Co. is reported to have done some leasing. California Petroleums, Ltd. is also reported to be leasing, and to be behind the activities of Hugh Adams, who is reported bringing in four rotary outfits to handle new drilling. There is no official confirmation of any of these reports.

The Ferdig Oil Co. of Sunburst, Mont., has secured an interest in Alberta Refineries, Ltd., of Edmonton and Refineries Distributors, Ltd., a subsidiary company formed to market the output of the refinery. B. N. J. Hines of New York, secretary-treasurer of the Ferdig company, was in Edmonton recently to conclude the negotiations. It is stated that the Ferdig Oil Co. will also undertake development work in the Wainwright Field. Alberta Refineries, Ltd. has a refining plant now in operation at Edmonton.

Grattan Oil's Election

At the annual meeting of the Grattan Oil Co., Ltd. the following officers were elected: R. B. McCleish, president; R. W. Jones, vice president; Col. W. G. Macfarlane and George Beart, directors. This company was the first to drill in east central Alberta; and later its acreage was tested by Imperial Oil, Ltd., developing one producing gasser and one dry hole. The acreage has since been reassigned to the Gratton Oil Co., which is arranging further development on a royalty basis.

In the Wainwright Field, Fabyan Petroleums, Ltd., LSD 8, Section 24-45-8w4, is reported drilling below 1,000 feet. National Exploration Co., LSD 1, Section 30-45-6w4, is rigging up and will probably spud in next week.

Preliminary construction work is under way on the refining plant of the Kling-Del Refining Co. and Wainwright. The plant will operate on Wainwright crude.

The Wainwright Gas Co. is securing service contracts in Wainwright and is planning to deliver natural gas from producing wells in the Wainwright Field.

Moose Mountain

In the Moose Mountain Field, Signal Hill No. 2, LSD 9, Section 34-23-5w5, is reported below 800 feet and drilling in a very hard formation and running double tour. Reserve Oils, Ltd., drilling on the Morley Indian Reserve, is down 1,730 feet and drilling with traces of oil reported. Wabash Oils, Ltd. has ordered machinery and commenced work on its camp on the Morley reserve. Cherokee Oils, Ltd., Section 33-23-5w5, is at 1,881 feet with a diamond drill test.

A test for water on the C. O. Bice farm near Okotoks got a considerable flow of dry gas at 100 feet.

Rainbow Oils, Ltd., recently organized under Dominion charter with a $500,000 capitalization and head offices at High River, Alta., has secured acreage in the Highwood area in Alberta in Section 6-18-2w5, and in the Ardill district south of Moose Jaw. Officers of the company are: W. J. Murdock, High River, president; A. W. Duncan, High River, vice president; F. DuRocher, secretary-treasurer and general manager; J. Kay and R. W. Gier, directors.

Over the Boundary

In the Montana Field, Madison Oils, Ltd., of Calgary, has secured production in No. 1 well, offsetting the Dupont producer. Model Oils, Ltd., of Calgary, which has finished No. 1, Section 27-35-1w, as a small producer at 1,545 feet, will drill two more tests offsetting wells drilled on Section 27-35-1w, by A. M. McDermid and L. L. Smith. Great Spirit Oil & Gas Co. will drill a test on Section 27-35-1w. Wolfe Development Co.'s No. 1, Section 27-35-2w, brought in last month with 400 bbls. a day flush production is reported flowing by heads 175 bbls. a day. It has not yet been put on the pipeline. Wolfe No. 2 lost the derrick by fire when at 1,300 feet, and is now rebuilding. Cope Development Co.'s No. 3, Section 23-35-2w, is at 500 feet and drilling. No. 1, on the pump some time, is reported making 35 bbls. a day.

A group of Canadian and American oil men have formed the Interprovincial Oil Co., and secured a block of territory north and west of the present producing area in Montana, and will drill a contract test in Section 11-37-3w.

Albertan Activities

In the Redcliffe Field, near Medicine Hat, Alberta, Roth's No. 2 deep test is reported working on derrick, with some machinery on the ground.

In northern Alberta, in the Lesser Slave Lake district, International Oils, Inc., Section 14-74-4w5, is reported drilling below 750 feet. The test has encountered several sands showing traces of oil and gas.

On the Upper Peace River, Black Rock Petroleum's No. 1, is drilling on a wildcat test near Vermillion Chutes. At last reports the test was down 279 feet. In this area, the dolomite formation, which is reached at great depth in southern Alberta, is estimated to lie between 400 and 800 feet from the surface. The Black Rock Petroleum Co. is backed by Calgary capital, and holds some 26,000 acres of leases on the Fort Vermillion structure. The geological work was done by S. E. Slipper of Calgary. The location is about 275 miles upstream from Peace River town.

In Saskatchewan, Unity Valley Oil Co.'s No. 1, SE quarter, Section 23-41-24w3, is being finished at 1,470 feet as a fair gasser. Some traces of oil were met. Unity Valley's No. 2, has been located in the same section and will be carried down as a test of an oil sand met at 1,250 feet in No. 1.

Gas In Biritsh Columbia

In the Fraser Valley, British Columbia, Sumas Oil Co., at 800 feet, has struck a gas flow, estimated at 700,000 feet a day. This is the first commercial gas well in British Columbia. Traces of oil were met with the gas, and the test is being carried deeper for oil production.

Ontario Fields

In the Ontario fields, a test drilled by George Peat on the J. C. Durham farm, near Oak Ridges, finished dry after being carried to the granite. Mr. Durham has bought the drilling outfit and will make other tests. James Wilson will handle the drilling.

SOUTHWEST WILDCATS

(Continued from Page 50)

tonio engineer, sub-leased 200 acres of land from the Utah-Texas Oil Co., a portion of their 1,000-acre tract in that section. Their contract is to drill to the chalk, a depth of 2,000 feet.

This will be the third well drilled on the tract of land, the new well to be the south offset to the Phillips-Keir well of 1918. This well was 937 feet north of the projected well and was a dry hole. The second well, the McClure, also proved dry as have all other tests made in the vicinity among them being the Tom Slick well, drilled two years ago 2 miles east, another by the Arkansas Oil Co. and one by the Houston Oil Co. It is stated that drilling will be begun within 60 or 90 days.

Atascosa County

W. G. French has assembled rig for No. 1 Frank Jaksik, in the northeastern part of Atascosa County, and will be ready to spud in within a few days.

Bexar County

Interest is keen in the test being made by the Marland Oil Co., which is using a diamond drill at 1,590 feet in its test, south of St. Hedwig in the eastern part of Bexar County. The company expects to core to the Edwards lime and may disclose valuable scientific data on that formation and reveal why the Edwards sometimes fails to produce at most likely looking places. I. L. Dingman is also testing south of the Marland well on a location in the Springer Survey. This well may go below the Austin chalk in its search for oil.

Caldwell County

Fred Adams has made location for No. 1 Kelly in the John A. Neal Survey, near the Callihan well of the North & South Oil Co. This is a wildcat test in a section where there have been some small producers in the Austin chalk. The Reiter-Foster Oil Corp. has the derrick up for No. 1 Riddle, a new test which will be made south of Dale, where they and others have been testing extensively.

Guadalupe County

J. M. Davis is moving in the rig for his No. 1 Weinert and is ready to set casing on his No. 2 Rosenbrook on the Payne & Pond Block at 725 feet. This well will make the Serpentine test at 1,200-1,300 feet. His test on the Pooley farm, south of Staples, is drilling in the Edwards lime at 1,540 feet.

Gonzales County

L. L. Jones' No. 1 Lamkin, 2½ miles from Waelder, is drilling at 1,000 feet. Oil has been found in two shallow tests at 543 and 4,440 feet.

Karnes County

Earl B. Reynolds, No. 2 Butler, 1,000 feet south of No. 1 Butler, has resumed drilling and is now at 720 feet.

Kimble County

The Dixie Oil Co. is rigging up its No. 1 Bode in Kimble County, 16 miles northwest of Junction. Material for the derrick was hauled from Menard. The Sun, Humble and Texas companies all have acreage in this territory.

Kleberg County

Material is being hauled for two derricks to be erected on locations made by the Humble Oil & Refining Co. on the Bennett farm, southeast of Kingsville. This company has completed three producers in that locality and the new locations are north of these. Humble owns all the acreage about the pool discovered by them last year.

Medina County

Sprague and others are plugging back in No. 1 Redus on Survey 92, after testing salt water at 1,100 feet. J. R. McCaldin is drilling at 2,918 feet in No. 1 Thompson, west of Devine. The No. 1 Joseph Courand of the Golden West Oil Co., southwest of Castroville, is drilling below the 800-foot level. The Alamo Drilling & Leasing Co.'s No. 1 Kennedy is shut down for repairs at 380 feet. This well is in Survey 412 in the western part of the county. The Ina Oil Co. has reached 2,026 feet and will bail the latter part of the week on its No. 1 Hoffman, in Survey 535, and is drilling at 800 feet with 1,000,000 feet of gas and no oil in its No. 1 Finger, on the George E. Harrison Survey. Western Gas & Fuel Co. is drilling at 350 feet in its No. 1 Chandler in Survey 13 Durst. This company has made location for No. 1 Adams, northeast of the Henderson and Holden gas wells.

McMullen County

After a delay caused by rebuilding the derrick blown down in a recent storm, the Coyle-Concord Co. has spudded in and is drilling on its No. 1 Mat Martin. The location of this well is on the John Jerejo Survey. George M. Ball is drilling at 1,215 feet in the No. 1 Kuykendall in the northwestern part of the county. Six and five-eighths-inch casing was set at that depth.

The Westmorland Oil Co. is drilling at 2,255 feet in No. 1 Franklin, 8 miles north of Tilden in McMullen County, and the well is showing up better. This company has 5,700 acres in this territory.

San Patricio County

John Sigmund's No. 8 McCampbell is drilling below the 1,300-foot level. This well is in San Patricio County, north of Aransas Pass, and the location is 1,500 feet east of No. 7 McCampbell on the McCampbell ranch.

Starr County

The Texas Company is moving its tools onto location for No. 1 Gerra, on the Porcion, Survey 69, and will drill the first four test wells. Ramsey-Maxey Oil Co.'s No. 1 Kelsey is drilling at 1,500 feet after testing salt water at 1,060 feet. Dauchy & Bryant are drilling at 1,975 feet in No. 1 Kelsey, 12 miles north of Roma. Heard & McCarley have the derrick up for No. 1 Garcia, Survey 918, northeast of Rio Grande City.

Webb County

Hadley and the Marland Oil Co.'s No. 1 De Spain, Survey 49, is standing awaiting drilling of a water well. Present depth is 1,200 feet. This well is an important one because it is located in a territory where there is every reason to believe oil exists, although no deep test has previously been made. The Cole Petroleum Co.'s No. 10-B Benavides, Block 5, Survey 3, is coring sand at a depth of 2,650 feet. That company's No. 9-A Benavides, Block 7, Survey 753, is drilling and coring at 2,750 feet. W. A. Wheatley and others' No. 1 Reiser, Block 7, Survey 1,618, is fishing for a slip and pipe lost in the hole. C. O. Maddox and others' No. 1 Laurel, on Survey 333, is drilling at 500 feet. National Refining Co.'s No. 2 Benavides, in Survey 700, is drilling at 3,250 feet. W. C. Ritcherson's No. 1-A Billings, in Block 1, Survey 71, is at 2,503 feet and fishing for a drill stem. Magnolia Petroleum Co. is drilling at 2,460 feet in its No. 1 Neal, in Block 12, Survey 132. Their No. 1 Page-Garcia is ready to spud in on Survey 611.

In the Duval County wildcat field, Humble Oil & Refining Co. is rigging up No. 10 Singer at the northern end of Survey 4. No. 5 Schallert, of the same

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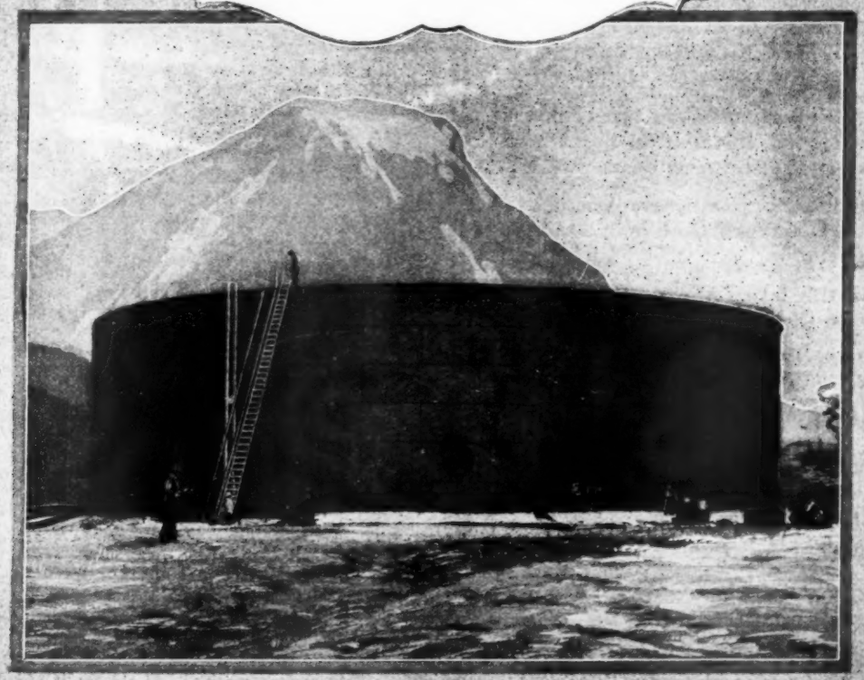

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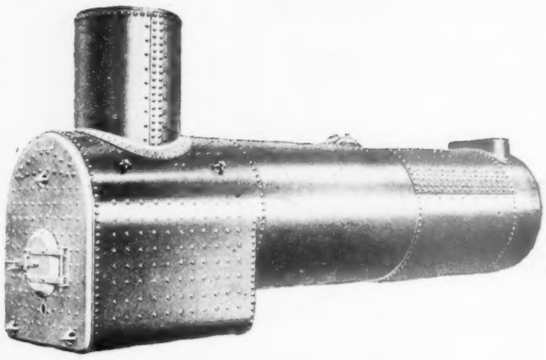

Donovan—A.S.M.E. Code—Oil Country Boiler

DONOVAN BOILERS are built in a variety of sizes and pressures so that the customer may readily and easily pick just the right boiler for each particular task.

25 H.P.-30 H.P.-35 H.P.—100 pounds pressure—Non-Code.

25 H.P.-30 H.P.-35 H.P.-50 H.P.-60 H.P.—150 pounds pressure—A. S. M. E. Code.

70 H.P.-75 H.P.-85 H.P.-95 H.P.—175 pounds pressure—A. S. M. E. Code.

DONOVAN BOILERS can be had in either the oil country type or the horizontal return tubular type. They can be moved, installed in batteries, or placed in permanent settings, as desired.

Our dealers and distributors carry ample stocks. Customers can get DONOVAN Boilers in a hurry from convenient yards.

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company, is drilling at 2,484 feet, having an oil show at that depth. This is the third oil show, the first being at 1,433-36 feet and the second at 1,794 feet. The Simms Oil Co.'s No. 1 Schallert, in Survey 241, is sidetracking a drill pipe lost in the hole back to 3,742 feet. Humble-Reister-Foster are moving on location in Survey 406, to drill No. 1 Kohler, also on Survey 168 to drill No. 2 Kohler. Maddox & Goodman have made a location for No. 1 Carlyle in Survey 18, at Copita, near the Brooks County line. They have 6,000 acres northwest of Falfurrias on which they expect to drill. George M. Ball is reaming to 2,600 feet on No. 1 Roach in Survey 463, at approximately the center. Casing was set at 2,560 feet where an oil showing was had. The Simms Oil Co. is drilling at 2,624 feet on No. 2 Dinn, in Survey 62, 450 feet from the south and east lines. This is regarded as an important well and will be watched with interest. The Humble Oil & Refining Co.'s No. 4 Dowdy, in Survey 2,790, 425 feet from the north and west lines, is drilling at 2,790 feet. Another test will be made of the Houston Oil Co.'s No. 1 Beall, 12 miles north of San Diego, on Survey 571, Chilipin Creek. The well, which was drilled to a depth of 2,452 feet, had a sand from 2,431-52 feet and tested salt water. It was plugged back and tested again at 2,443 feet and tested salt water again. The third test will be made at 2,440 feet.

Trees Oil Co., Survey 10, has spudded in its No. 1 Billings. Neal-Ramsland and others' No. 1 Lopez, in the center of 10 acres in Survey 309, cored sand at 2,620 feet within the past week. The Lane-The Texas Company's townsite well is now drilling at 2,320 feet.

Wilson County

Humble Oil Co.'s D. A. Sallen well, on the Joseph Reynolds land, is drilling at 1,300 feet. Gibson Oil Corp. is drilling at 1,600 feet on its No. 1 Julian Esprey.

Jim Hogg County

Smith & Maddox' No. 5 Palacious, in Survey 291, tested sand at 1,294 feet within the past week, and their No. 6 Palacious, in the same survey, also tested at 1,296-7 feet. The Moody Oil Corp.'s No. 1 Palacious encountered hard rock at 1,600 feet and is standing. Hoad and others' No. 1 Palacious, Block 247, is down to 1,300 feet and drilling. National Oil Co.'s No. 1 Allen, on the Allen ranch, is down to 1,905 feet and drilling. O'Byrne and others' No. 1 Palacious, Block 14, Survey 230, is drilling at 1,300 feet. Casing was set in cement early in the week in No. 2 Holden, 2 miles south of Crestonia, 6 miles east of Hebronville. The well is 500 feet west of the Katherine Claus' No. 1, which is sidetracked for the present awaiting completion of No. 2, which will be brought in within a few days.

Zapata County

Turner & Moore of Corsicana have abandoned their No. 1 Bestimante location in Block 38, on the division line between the Charco de la India and Comitas grants. Contract was forfeited August 23. The Earl K. Bateman No. 1 Garcia, Block 7, Survey 617, is reaming out the hole of an old well below the 2,000-foot level and the well will then be drilled to 3,000 feet.

This well is in a location in line with production and may open up a new oil field. It is north of the Charco-Redando shallow pool, where oil is being produced from wells at 177 feet, and southwest of the Randado Pool.

The Trees Oil Co.'s No. 1 Benavides, in Block 22 of the Villa grant, is drilling at 2,800 feet. This well is south and east of the deep well being drilled by The Texas Company on the Jennings ranch. The Texas Company's No. 3 Jennings, Cerrito Blanco Survey, tested sand at 1,428-36 feet. This proved a gas sand but the drill will be sunk to a possible 5,000-foot depth in search of oil. No. 2 Jennings went to 4,685 feet and was abandoned.

SOUTHWEST TEXAS

(Continued from Page 50)

for water at 2,140 feet. Killam-Winch's No. 2 de la Garza, Block 12, Survey 336, has encountered lignite and rock at 2,713 feet. Location has been made for the Brashara-Neal Co.'s No. 1 Benavides, in Survey 689, Block 8, 150 feet from the east and north lines. Morgan Brothers-O'Hern & Seacord are drilling at 2,050 feet on No. 1 Webster. The Morgan Brothers and Killam No. 1 Webster is standing at 300 feet, while the Morgan Brothers & Best No. 1 Webster, in the northeast quarter of the northwest quarter in Survey 684, is below the 1,100-foot level and standing, waiting on water. Morgan Brothers' No. 1 Benavides, in the N half of the northwest quarter of the southwest quarter, in Survey 679, is waiting for water to spud in.

Mirando (Old Field)

In the Mirando Field in Webb County, two wells were completed during the past week, the largest being that of the Crown Central Petroleum Corp., No. 11 Garcia, which came in at a depth of 1,578 feet, making 110 bbls. The sand was encountered at 1,573 feet.

The other well completed was the Jackson-Shankle No. 2 Garcia, Block 22, Survey 606, at 1,562 feet, making 75 bbls. of oil.

The Alonza Oil Producing Co.'s No. 7 Garcia, in Survey 605, is drilling at a depth of 1,400 feet. Kirkpatrick-Lucas Co. has abandoned the location of No. 2 Anderson, center Block 5, Anderson subdivision of the Los Ojuelos grant. Crown Central Petroleum Corp. is drilling at a depth of 2,800 feet on its No. 10 Garcia.

Somerset Field

The Witherspoon Oil Co.'s No. 2 Turpe, 2,400 feet southwest of No. 1 Turpe, in Atascosa County, is drilling at the 1,500-foot level. W. R. Hamilton is drilling on No. 13 Hughes, 700 feet northeast of No. 12, which was completed last week, a 12-bbl. well, the smallest thus far on the Hughes lease in the western end of the field. No. 13 should prove a better well.

Cole Field

Barkley, Meadows & Morgan are moving on to drill No. 2 King-Harper, in a 40-acre tract in Survey 323, the location being 1,650 feet from the southeast line and 150 feet from the southwest line. They completed a well two weeks ago, No. 1 King-Harper, Survey 323, which is pumping 150 bbls.

The Gulf Producing Co. is drilling at 750 feet on No. 1 King-Harper, in Survey 323. Cole Petroleum Co.'s No. 25 Benavides, Block 1, Survey 18, struck rock at 3,570 feet and 8¼-inch casing was set at 2,946 feet.

O. W. Killam brought in a gasser, No. 4 Lopez, Block 8, Survey 25, during the past week, which made 50,000,000 feet of gas at a depth of 1,745 feet.

Piedras Pintas

The Humble Oil & Refining Co.'s No. 6 Walsh, 90 feet north of the Morgan test, Piedras Pintas Field, is standing with 3,000 feet of oil and no salt water, awaiting repairs to the machinery. This well will be watched with considerable interest as it is completed.

Location has been made for No. 7 Walsh in Survey 185, 1,200 feet from the north line and 2,150 feet from the east line, and 500 feet north of No. 4. Location has been cleared for the derrick. The Humble Oil & Refining Co. is drilling at 1,835 feet on its No. 1 Becker in Survey 531.

NEW BOOSTER STATION

EDNA, Tex., Aug. 28—Several officials of the Houston Pipe Line Co. have been in Edna looking over the site of the booster station this company will erect 3 miles west of Edna. The company recently purchased 156 acres on the Lavaca River. The Houston Gulf Gas Co. booster station, 4 miles south of Edna, is about completed.

PRODUCTION IN U. S. FOR 12 MONTHS 744,062,000 BARRELS

An increase of 52,759 bbls. per day is shown in the production of crude oil in the states of Kansas, Oklahoma, Texas and Louisiana—the Mid-Continent, Gulf Coast and southwest Texas Fields—in July as compared with June.

This big increase came principally from the Gulf Coast Field and the Texas Panhandle Field, and the pools which contributed most to it were Hutchinson County in the Panhandle and Spindletop in Jefferson County, Texas. However, gains were shown in Kansas (4,334 bbls. per day), Oklahoma (3,705 bbls. per day) and east central Texas (1,701 bbls. for which latter Nigger Creek was responsible.)

An increase of 18,602 bbls. per day was shown in the Panhandle fields in Texas and 9,857 bbls. a day in the west Texas counties. The Crane-Upton area was largely responsible for the increase in west Texas.

The Spindletop Field in the Gulf Coast of Texas increased from 4,420 bbls. to 29,390 bbls. per day, a gain of 24,970 bbls. per day.

The increases above noted more than offset losses in other fields. Arkansas and north Louisiana show a decrease from their June output.

The total production of the United States in July was approximately 2,092,776 bbls. a day or 64,876,076 bbls. for the month (figures subject to minor change.) The production for the 12 months ending in July was approximately 744,062,000 bbls. As the production in the calendar year 1926 was close to 760,000,000 bbls., it will be seen that the remaining five months of the year will have to show an increase over the last five months of 1926 of about 16,000,000 bbls. to yield a production as large as last year's. There is no present danger of this even though the production at the present time is higher by 35,000 bbls. a day than it was as an average for August, 1926.

SUMMARY BY PRODUCING DIVISIONS
Mid-Continent Fields

	Daily Av.	Monthly
Kansas	116,557	3,613,267
Oklahoma	472,822	14,657,482
North Texas	91,072	2,823,232
Central Texas	50,825	1,575,575
West Texas	38,839	1,204,009
Panhandle Texas	65,282	2,023,742
East Central Texas	53,627	1,662,437
Arkansas	161,932	5,019,892
North Louisiana	57,425	1,780,175
Total July	1,108,381	34,359,811
Total June	1,082,722	32,481,660
Difference	25,659	1,878,151
Gulf Coast and Southwest Texas		
Gulf Coast (Tex.-La.)	122,099	3,785,069
Southwest Texas	42,043	1,303,333
Total July	164,142	5,088,402
Total June	137,042	4,111,260
Difference	27,100	977,142
Production by States		
Kansas	116,557	3,613,267
Oklahoma	472,822	14,657,482
Texas	451,089	13,983,759
Arkansas	161,932	5,019,892
Louisiana	70,123	2,173,813
Total July	1,272,523	39,448,213
Total June	1,219,764	36,592,920
Difference	52,759	2,855,293

KANSAS
Daily Average and Total Monthly Production in July, 1926

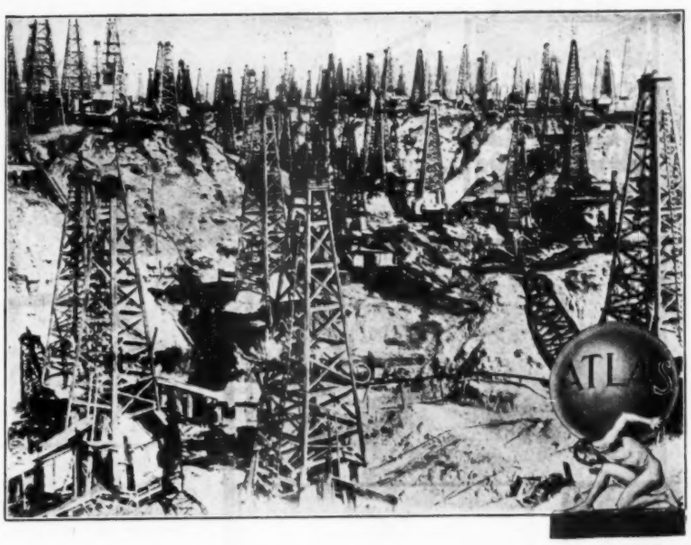
Marion County:	Daily Av.	Monthly
Florence	1,203	37,293
Peabody	1,701	52,731
Covert-Sellers	777	24,087
Total	3,681	114,111
Butler County:		
Potwin	455	14,105
Elbing	2,686	83,266
Cameron-Robinson	806	24,986
Wilson-Dunkle	1,660	51,460
Towanda	2,732	84,692
Fox Bush	1,599	49,569
Nuttle-Koogler	2,068	64,108
Eldorado	6,508	201,748
Smock	272	8,432
Leon-Weaver	1,564	48,484
North Augusta	1,505	46,655
South Augusta	1,880	58,280
Sluss	400	12,400
Douglass	133	4,123
Eastern Butler	4,313	133,703
Total	28,581	886,011
Greenwood-Woodson Counties:		
Sallyards	1,579	48,670
Teeter-Pixley-Scott	19,786	613,335
Virgil	4,586	142,166
Thrall-Burkett	3,772	116,932
Seely	15,595	483,445
Polhamus	2,146	66,526
Miscellaneous	2,429	75,299
Total	49,883	1,546,373
Cowley County:		
Rainbow Bend	3,977	123,287
Slick	1,615	50,065
Graham	1,407	43,617
Rock (Twp. 30-4)	363	11,253
Clark (Twp. 31-5)	330	10,230
Eastman (Twps. 30-6 and 31-6)	881	27,311
Winfield-New Salem (Twps. 32-4 and 32-5)	2,417	74,927
Miscellaneous	510	15,810
Total	11,500	356,500
Other Counties:		
Sumner	359	11,129
Rice	1,279	39,649
Russell	5,111	158,441
Harvey	33	1,023
Chautauqua	2,463	76,353
Elk	1,919	59,489
Montgomery	1,886	58,466
Wilson	254	7,874
Allen	1,922	59,582
Neosho	807	25,017
Lyon	2,349	72,819
Miami	457	14,167
Franklin	532	16,492
Douglass	44	1,364
Bourbon	19	589
Linn	240	7,440
Anderson	3,211	99,541
Labette	27	837
Total	22,912	710,272
Total July	116,557	3,613,267
Total June	112,215	3,366,450
Difference	4,342	246,817

OKLAHOMA
Daily Average and Total Monthly Production in July, 1926

	Daily Av.	Monthly
Washington County	5,879	182,249
Nowata County	5,253	162,843
Rogers County	1,712	53,072
Osage and Eastern Kay Counties:		
Burbank	43,165	1,338,115
Osage, outside Burbank	32,659	1,012,429
Total	75,824	2,350,544
Tulsa County:		
Bird Creek, Owasso, etc.	3,942	122,202
Red Ford, Sand Springs, Bruner, Turkey Mountain and Fisher	3,414	105,834
Bixby, Leonard and Jenks	3,173	98,363
Broken Arrow and Coweta	1,181	36,611
Total	11,710	363,010
Okmulgee, Muskogee and N. Okfuskee Counties:		
Mounds, Beggs, Hamilton Switch, Youngstown	11,202	347,262
Bald Hill and Barkell	4,722	146,382
Morris, Boynton and Cole	3,845	119,195
Okmulgee	2,576	79,856
Tiger Flats, Henryetta, Schulter and Bartlett	3,947	122,357
Total	26,292	815,052
Okfuskee, Seminole and Hughes Counties:		
Deaner-Lyons	4,107	127,317
Wewoka	32,080	894,480
Cromwell	16,843	522,133
Papoose-Gilcrease	8,810	273,110
Okemah	157	4,867
Weleetka	1,347	41,757
Wetumka	34	1,054
Yeager	706	21,948
Seminole	10,064	311,984
Miscellaneous	2,343	72,633
Total	76,493	2,371,283
Creek County:		
Cushing-Shamrock	20,917	648,427
Mannford-Olive	711	22,041
Glenn Pool, Sapulpa and Kiefer	8,916	276,396
Bristow, Kellyville and Depew	28,211	874,541
N. Bristow (Twp. 17-8)	3,862	119,722
E. Bristow or Slick	5,788	179,428
Total	68,405	2,120,555
Pawnee County:		
Cleveland	3,507	108,717
Keystone	1,458	45,198
Jennings	5,186	160,766
Otoe or Watchorn	3,137	97,247
Masham	130	4,030
Ralston	229	7,099
Total	13,647	423,057
Payne County:		
Yale, Quay and Ingalls	9,023	279,713
N. Cushing or March Pool	1,419	43,989
Deep Rock (23-18-3)	3,246	100,626
Total	13,688	424,328
Lincoln County:		
Stroud	1,458	45,198
Davenport	8,272	256,463
Kendrick or Skelly	1,890	58,590
Total	11,621	360,251
Kay, Grant and Noble Counties:		
Blackwell	1,851	57,381
North Blackwell	1,949	60,419
Deer Creek	61	1,891
Ponca City	801	24,831
Mervine	319	9,889
North Braman	2,737	84,847
South Braman	10,531	326,461
Hubbard	1,929	59,799
Thomas	2,705	83,855
Tonkawa	37,275	1,155,525
Billings	329	10,199
Miscellaneous	450	13,950
Total	60,937	1,889,047
Garfield County:		
Garber	36,283	1,124,773
Carter County:		
Healdton	14,955	463,605
Hewitt	11,688	362,328
Graham	7,248	224,688
Fox	3,125	96,875

(Continued on Page 91)

NOTHING FINER FOUND—ABSOLUTELY ROUND



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Precision, sphericity and all the factors which distinguish a quality product are embodied in Atlas Valve Balls to the highest degree. If you are not one of the large army of users who have made Atlas their standard, ask your supplier for Valve units equipped with Atlas Valve Balls. The results will win you too.

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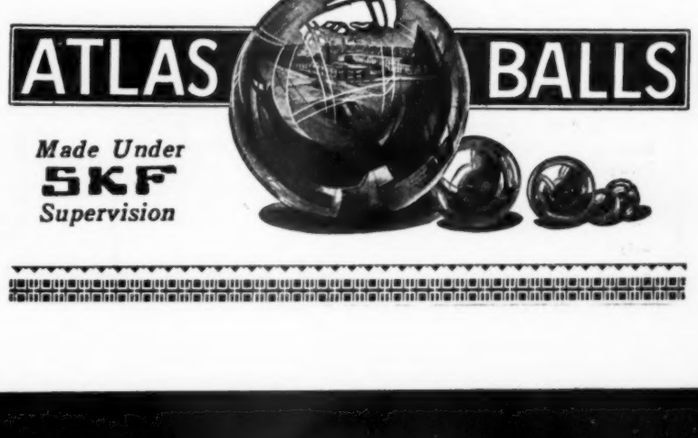

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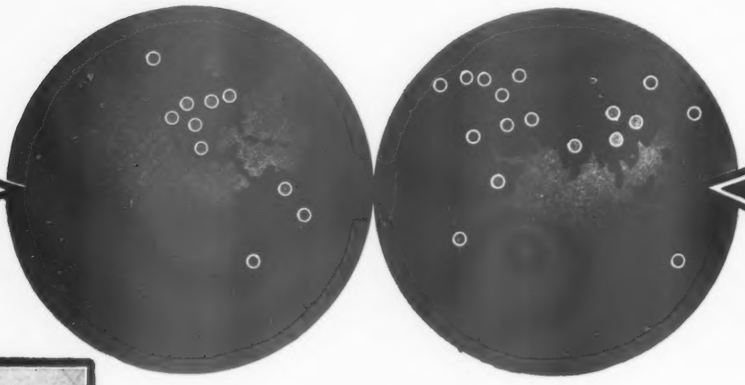

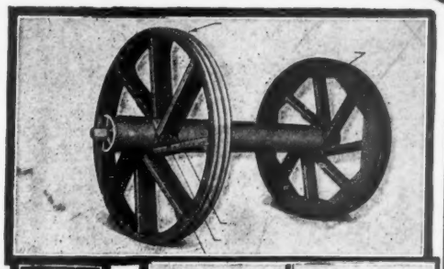

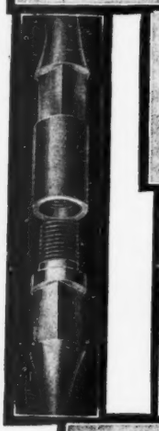

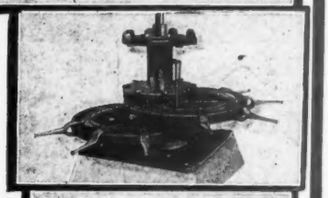

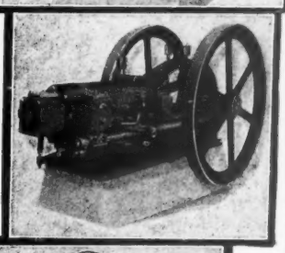

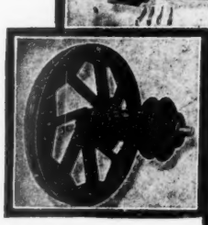

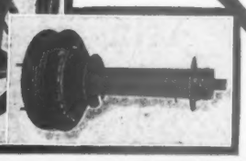

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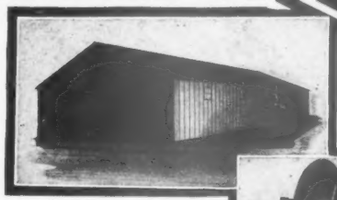
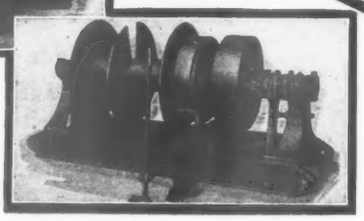




MARION MACHINE, FOUNDRY & SUPPLY CO.,
Marion, Indiana

Gentlemen:

Please mail us the July Marion Line, showing views and description of the Marion No. 80 "Little Giant Power."

Name .....

City .....

State .....

	Daily Av.	Monthly
Brock	1,522	47,182
Tussy or Sholem Alechem	6,261	192,231
Total	44,739	1,386,909
Stephens-Cotton Counties:		
Loco-Milroy	2,328	72,168
Comanche	653	20,243
Duncan	5,799	179,769
Walters	904	28,024
Kilgore	225	6,975
Knox	1,375	42,625
Total	11,284	349,804
Pontotoc County:		
Lloyd	91	2,821
Allen	379	11,749
Frances	217	6,727
Total	687	21,297
Caddo County:		
Cement	1,902	58,962
Garvin County:		
Robberson	2,803	86,893
Beckham:		
Sayre	52	1,612
Jefferson County:		
Hambro	3,494	108,314
Pottawatomie County:		
Maud	27	837
Marshall County:		
Madill	90	2,790
Total July	472,822	14,657,482
Total June	469,117	14,073,510
Difference	3,705	573,972

TEXAS

Daily Average and Total Monthly Production in July, 1926

North Central Texas:	Daily Av.	Monthly
Burkburnett	11,870	367,970
Electra	15,850	491,350
Iowa Park K.M.A.	4,211	130,541
Archer County	29,089	901,759
Clay County	529	16,399
Wilbarger County	15,794	489,614
Montague County	5,195	161,045
Young County	8,384	259,904
Baylor County	150	4,650
Total	91,072	2,823,232
Central Texas:		
Clear Fork	4,265	132,215
Breckenridge	5,654	175,274
Caddo	3,436	106,516
Ranger-Eastland	5,041	156,271
Rising Star	72	2,232
Sipe Springs	132	4,092
Desdemona	1,759	54,529
Pioneer	563	17,453
Brown County	11,246	348,626
Calahan County	4,345	134,695
Coleman County	1,783	55,273
Throckmorton County	504	15,624
Jack County	146	4,526
Palo Pinto County	435	13,485
Shackelford	11,444	354,764
Total	50,825	1,575,575
West Texas:		
Crane County	812	25,172
Reagan County (Big Lake)	29,332	909,292
Mitchell County	3,471	107,601
Howard County	221	6,851
Scurry County	24	744
Upton County	3,906	121,086
Crockett County	1,069	33,139
Loving County	4	124
Total	38,839	1,204,009
Panhandle:		
Carson County	2,758	85,498
Hutchinson County	59,030	1,829,930
Wheeler County	388	12,028
Gray County	3,049	94,519
Potter County	57	1,767
Total	65,282	2,023,742
East Central Texas:		
Powell	28,215	874,665
Corsicana	650	20,150
Mexia	12,301	381,331
Nigger Creek	3,210	99,510
Currie	902	27,962
Richland	1,474	45,694
Wortham	6,875	213,125
Total	53,627	1,662,437
Total, all fields, July	299,645	9,288,995
Total, all fields, June	272,262	8,167,860
Difference	27,383	1,121,135

NORTH LOUISIANA

Daily Average and Monthly Production in July

Field—	Daily Av.	Monthly
Bellevue	2,337	72,447
Caddo light	10,408	322,648
Caddo heavy	2,829	87,699
Cotton Valley	7,841	243,071
De Soto and Red River	3,894	120,714
Elm Grove	598	18,538
Haynesville	9,761	302,591
Homer	5,712	177,072
Urania	14,045	435,395
Total July	57,425	1,780,175
Total June	60,306	1,809,180
Difference	2,881	29,005

SOUTH ARKANSAS

	Daily Av.	Monthly
Smackover heavy	124,313	3,853,703
Smackover light	15,610	483,910
El Dorado	7,550	234,050
Lisbon	10,393	322,183
Nevada	2,265	70,215
Stephens	1,801	55,831
Total July	161,932	5,019,892
Total June	168,822	5,064,760
Difference	7,890	44,868

GROSS PRODUCTION

Gulf Coast Pools for July, 1926

District—	Daily Av.	Monthly
Roling	2,452	76,012
Batson	1,490	46,190
Blue Ridge	1,341	41,571
Barber Hill	586	18,166
Big Creek	2,547	78,957
Dayton	57	1,767
Damon Mound	772	23,932
Edgerly (La.)	803	24,893
Goose Creek	11,484	356,004
Humble	3,986	123,566
Hull	18,805	582,955
High Island	127	3,937
Jennings (La.)	1,315	40,765
Lockport (La.)	5,415	167,865
Markham	72	2,232
Nash	1,083	33,573
Orange	9,740	301,940
Orchard	454	14,074
Pierce Junction	2,221	69,851
Piedras Pintas	77	2,387
Spindletop	29,390	911,090
Saratoga	1,635	50,685
Sour Lake	5,645	174,995
South Liberty	6,107	189,317
Vinton (La.)	5,090	157,790
West Columbia	9,215	285,665
Welsh-Anse La Bute	75	2,325
Miscellaneous	115	3,565
Total for July	122,099	3,785,069
Total for June	94,999	2,849,970
Difference	27,100	935,099

SOUTHWEST TEXAS

District—	Daily Av.	Monthly
Luling	21,815	676,265
Miranda	12,080	374,480
Somerset	2,061	63,891
Calliham	121	3,751
Rockdale-Minerva	972	30,132
Lockhart (Lytton Springs)	4,994	154,814
Total July	42,043	1,303,333
Total June	38,734	1,162,020
Difference	3,309	141,313

DUST FROM OIL SHALE FOUND TO BE EXPLOSIVE

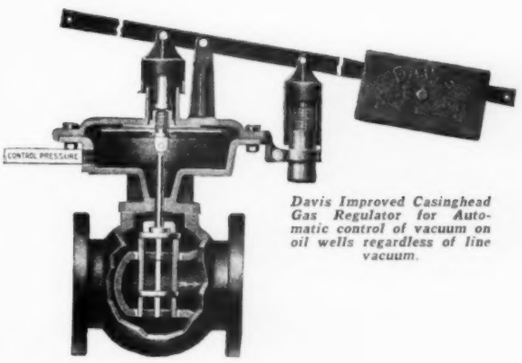
Tests conducted at the Pittsburgh, Pa., experiment station of the Bureau of Mines, Department of Commerce, have demonstrated that oil shale dusts are explosive, and that their explosiveness increases with their combustible content. The formation of dust during the mining and handling of oil shale is almost unavoidable, and the Bureau considers that the same precautions against dust explosions should be taken in the industries producing or working with oil shale as are taken in safely operated coal mines.

Few of the problems of mining oil shale have as yet been encountered and solved in the United States, because no commercial production of shale oil has been attempted. Mining methods will depend largely on local conditions and on the physical characteristics of the deposits, but it is probable that underground methods similar to those used in coal mining will be used. In the eastern states where the black oil shales of a cannel-coal nature overlie coal seems near the surface, and elsewhere where conditions permit, stripping or quarrying methods may be feasible.

The dust produced in Scottish shale-mining operations, according to some investigators, is noninflammable and nonexplosive. However, this must not be taken to indicate that oil shale of similar characteristics will be encountered in American shale mines. The results of the tests made by the Bureau of Mines show that oil-shale dust may present a source of danger in American mines, particularly when comparatively rich material is being worked.

Oil shale contains compounds of carbon and hydrogen that are either of a petroleum nature and are strongly absorbed upon the incombustible part of the shale, or else are present in the shale as a compound ("kerogen") which has the property of changing into petroleum-like products when acted upon by heat. The oil shales may contain varying amounts of the organic matter, ranging from a trace to more than 66 per cent, depending upon their richness; therefore, it is important to know whether the dusts formed in mining and handling these oil shales are explosive when mixed with air and if so, to indicate remedial measures. Explosibility tests of several pulverized oil shales, selected as being typical of those which in the future may be used in commercial shale-oil production were made by the Bureau of Mines at Pittsburgh. These shales were from Indiana, Colorado, Nevada, Utah and New South Wales, Australia.

Details of the tests are given in Serial 2,758, "Explosibility of Oil-Shale Dust," by Vernon C. Allison and Arthur D. Bauer, copies of which may be obtained from the Bureau of Mines, Department of Commerce, Washington, D. C.



Davis Improved Casinghead Gas Regulator for Automatic control of vacuum on oil wells regardless of line vacuum.

FOR those installations where extremely accurate automatic control of the vacuum on oil wells is necessary, the Davis Improved Casinghead Gas Regulator makes the simplest and most reliable installation.

In the Improved Regulator, the diaphragm chamber is separated from the valve body. An equalized control vacuum may be taken from the line a short distance from the valve, providing the most accurate type of regulation under all conditions.

The new Davis Regulator is completely protected from weather even in the most exposed location on the line. It will function accurately and correctly under all conditions.

A reversal of the counterweight lever permits the use of the Davis Casinghead Gas Regulator for maintaining well vacuum constant, or for use as a low pressure, back pressure or relief valve.

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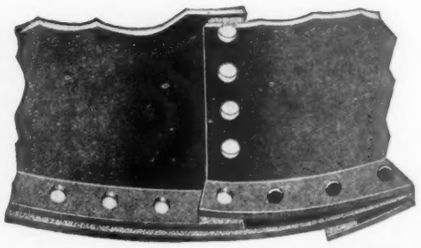
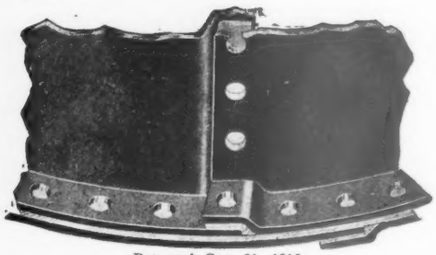


The Unscientific Joint and Seam



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Patented Oct. 21, 1913

It Put the *"Crimp"* in WASTAGE

The patented MALONEY "crimp" at seams and joints has been the greatest of all contributions towards *vapor tightness* in bolted steel tanks. It gave to the Industry a tank whose parts fit together with *hair-line accuracy.* MALONEY Tanks, properly erected with the use of our special gasketing and Gaso Cement, provide absolutely *gas-tight storage* and have been found wholly satisfactory for storing gasoline at gasoline plants and refineries, as well as for storing all grades of crude in the production sections.

MALONEY Tanks are noted for strength and durability. Material is rust-resisting Keystone Copper Steel. Seams are reinforced with strong steel channels and strips. Valves and thief-hatches are of the most approved design.

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"Buck" Type Vacuum Pressure Valves and Vacuum Breakers Furnished

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MALONEY TANKS

MALONEY ALONE

Mexican Shipments, Less Than Year Ago, Increase Over June

By George Blardone

TAMPICO, Mex., Aug. 28.—Shipments of petroleum from Mexican ports of primary clearance during the month of July totaled 7,523,358 bbls., a decrease from the movement during July one year ago of 724,052 bbls., but an increase, the June of the current year movement considered, of something like 200,000 bbls.

The movement in detail follows:

FROM TAMPICO

By Huasteca Petroleum Co.

July	Rig	Vessel, Destination—	Bbls.
1	Ss.	M. Luckenbach, Tampa	*48,237
1	Ss.	Norman Bridge, Jacksonville	*40,898
1	Ss.	H. G. Wylie, Fall River	*41,718
1	Ss.	Crampton Anderson, Baltimore, etc.	†76,382
2	Ss.	Dean Emery, New York	*67,350
4	Ss.	Inverurie, Lizard f/o	*58,016
4	Ss.	Invergordon, Lizard f/o	*57,665
4	Ss.	R. W. Stewart, Providence	*77,387
5	Ss.	Dist. Columbia, Mobile	*69,561
6	Ss.	Mantilla, Boston	*51,548
6	Ss.	Mirlo, Portland	*62,685
8	Ss.	Meline, New Orleans	63,134
8	Ss.	J. M. Danziger, Houston	*64,081
10	Ss.	Malabar, New York	*76,726
11	Ss.	Ballhill, Norfolk	*58,381
13	Ss.	Harold Walker, Rio Janeiro	*63,110
13	Ss.	Mendocino, Rio J. & Pernambuco	*42,119
14	Ss.	Princeton, Tampa	*48,124
14	Ss.	Norman Bridge, Houston	*41,467
14	Ss.	P. H. Harwood, Boston	*66,663
15	Ss.	Comet, Galveston	*17,936
15	Ss.	J. M. Danziger, New York	*67,483
15	Ss.	J. O. Boyd, Miami	†19,450
16	Ss.	Cerro Ebano, New York	*76,553
16	Ss.	Dist. Columbia, New York	*69,350
16	Ss.	O. D. Bennett, Baltimore	45,062
17	Ss.	Ardmore, New York	*77,476
18	Ss.	C. A. Canfield, Galveston	*63,166
18	Ss.	Malacca, Baltimore	*72,299
19	Ss.	Meline, New Orleans	63,720
21	Ss.	Montana, Baltimore	60,658
21	Ss.	Elisha Walker, New York	*68,497
21	Ss.	Dean Emery, New York	*66,971
22	Ss.	E. L. Doheny, New York	*60,875
23	Ss.	Norman Bridge, Houston	*40,878
23	Ss.	Schwarzes Meer, Barcelona y Alicante	36,197
24	Ss.	M. Luckenbach, Jacksonville	*49,959
24	Ss.	Cecil County, Baltimore	*71,762
24	Ss.	W. L. Stead, Boston & New York	†72,771
26	Ss.	Inveravon, Lizard f/o	*67,735
26	Ss.	Princeton, New York	*49,299
26	Ss.	Mantilla, New Orleans	52,857
28	Ss.	Ballhill, Norfolk	*58,726
29	Ss.	H. G. Wylie, Galveston	*41,773
29	Ss.	Crampton Anderson, Baltimore & Norfolk	†75,732
30	Ss.	Cerro Azul, Providence	*78,745
30	Ss.	Meline, Baltimore	60,615
31	Ss.	Malabar, Baltimore	*73,507
		Coastwise deliveries	†18,834
		Coastwise deliveries	*149,747
		Visible bunker deliveries	51,888
		Total	3,045,773

By Transcontinental Petroleum Co.

July	Rig	Vessel, Destination—	Bbls.
1	Ss.	F-Sulphur 1, La Romana, D. R.	*17,112
1	Ss.	Hugoton, San Juan & Ponce	*66,298
4	Ss.	Princeton, Baton Rouge	50,884
4	Ss.	Cecil County, Baltimore	70,776
7	Ss.	Pioneer, New York	†33,006
8	Ss.	Halsey, New York	*67,328
10	Ss.	Mary Luckenbach, Charleston	50,936
14	Ss.	Agwimex, Baltimore	80,270
16	Ss.	Glenpool, Charleston	54,035
16	Ss.	Agwihavre, New York	82,631
16	Ss.	Agwilake, Baltimore	79,097
19	Ss.	Dillwyn, New York	42,269
19	Ss.	Dillwyn, New York	†30,867
21	Ss.	Hugoton, Charleston	68,806
22	Ss.	L. J. Drake, Havana & Matanzas	62,548
22	Ss.	Hoxbar, Porto Rico	27,951
22	Ss.	Hoxbar, Porto Rico	*39,237
30	Ss.	Hagan, New York	39,893
30	Ss.	Hagan, New York	*27,302
		Bunker deliveries	67,959
		Total	1,059,212

By Mexican Eagle Oil Co., Ltd.

July	Rig	Vessel, Destination—	Bbls.
1	Ss.	San Leon, Key West	*57,058
9	Ss.	San Zotico, Nassau f/o	*50,730
12	Ss.	San Tirso, Nassau f/o	*32,582
13	Ss.	Lycia, Brazil ports	†26,437
14	Ss.	San Antonio, Key West	*45,141
16	Ss.	San Manuel, Rosario & B. Aires	†62,046
18	Ss.	San Tiburcio, B. Blanca & B. Aires	†64,119
21	Ss.	San Leon, Key West f/o	*58,819
22	Ss.	San Leonardo, Key West f/o	*50,676
24	Ss.	Luminous, London	†50,520
26	Ss.	British Light, Mariel, Cuba	*57,958
28	Ss.	Phoenix, Belize & Gautemala	†4,154
30	Ss.	San Leopoldo, Pernambuco & Rio Janeiro	*25,302
30	Ss.	San Leopoldo, Rio Janeiro	†29,751
31	Ss.	Trimountain, Nassau	*54,786
		Coastwise deliveries	†10,828
		Coastwise deliveries	*114,348
		Bunker deliveries	62,258
		Total	857,513

By Cia. Mexicana Holandesa La Corona, S.A. (Royal Dutch-Shell

July	Rig	Vessel, Destination—	Bbls.
1	Ss.	Harry, Farnum, New Orleans	29,194
2	Ss.	Corning, New Orleans	44,909
4	Ss.	Amlay, New York	65,325
5	Ss.	Maricopa, Nassau f/o	57,651
6	Ss.	Golaa, Nassau f/o	49,547
7	Ss.	Jole Fassio, New Orleans	40,130
10	Ss.	San Joaquin, Nassau f/o	59,497
13	Ss.	Mendocino, Rio Janeiro	*14,424
15	Ss.	Corning, Nassau f/o	43,154
18	Ss.	Jole Fassio, New Orleans	42,980
18	Ss.	Torres, New Orleans	49,846
21	Ss.	Matinicock, New York	75,614
22	Ss.	Huguenot, Nassau f/o	58,067
27	Ss.	Muskogee, New York	67,743
31	Ss.	Jole Fassio, New Orleans	44,778
		Bunker deliveries	47,588
		Total	790,447

By Mexican Sinclair Petroleum Corp.

July	Rig	Vessel, Destination—	Bbls.
3	Ss.	Madrono, Nuevitas	54,466
6	Ss.	Mirita, New Orleans	25,258
9	Ss.	Harry Farnum, Bocas del Toro, C.A.	28,738
16	Ss.	W. L. Connelly, New Orleans	30,838
16	Ss.	Mirita, New Orleans	53,435
17	Ss.	Madrono, Nuevitas & Tarafa	55,854
23	Ss.	E. V. R. Thayer, Havana	68,250
24	Ss.	Gene Crawley, Puerto Barrios, C.A.	29,115
26	Ss.	Mirita, New Orleans	53,606
26	Ss.	W. L. Connelly, Tela, C.A.	30,444
27	Ss.	Harry Farnum, Puerta Castillo, C.A.	29,530
29	Ss.	A. E. Watts, New Orleans	70,836
31	Ss.	Madrono, Nuevitas	54,554
		Bunker deliveries	17,742
		Total	602,660

By The Texas Company

July	Rig	Vessel, Destination—	Bbls.
2	Ss.	Virginia, Providence	*55,189
5	Ss.	Georgia, Fort Arthur	40,700
5	Ss.	Georgia, Fort Arthur	†11,161
15	Ss.	Occidental, Providence	*57,307
23	Ss.	Virginia, Delaware River	57,032
28	Ss.	Georgia, Fort Neches	49,037
		Bunker deliveries	7,623
		Total	277,989

By Mexican Gulf Oil Co.

July	Rig	Vessel, Destination—	Bbls.
1	Ss.	Meline, Galveston	62,542
2	Ss.	Caloria, Savannah	41,220
7	Ss.	Gulfoil, New Orleans	47,223
24	Ss.	Currier, Port Tampa	41,744
26	Ss.	Nelson, Everett	38,545
		Bunker deliveries	2,046
		Total	233,330

By La Espueha Oil Co.

July	Rig	Vessel, Destination—	Bbls.
5	Ss.	F-Sulphur 6, Freeport	28,646
11	Ss.	F-Sulphur 6, Freeport	27,388
16	Ss.	F-Sulphur 1, Freeport	18,093
24	Ss.	F-Sulphur 6, Freeport	29,215
29	Ss.	F-Sulphur 6, Freeport	28,219
		Total	131,561

By Pierce Oil Corp.

July	Rig	Vessel, Destination—	Bbls.
3	Ss.	Wm. Isom, Baltimore	*29,193
19	Ss.	Caloria, New Orleans	*42,100
26	Ss.	Wm. Isom, Baltimore	*27,973
		Bunker deliveries	6,023
		Total	105,289

By Empire Gas & Fuel Co.

July	Rig	Vessel, Destination—	Bbls.
8	Ss.	Texas, Norfolk	60,543
		Bunker deliveries	2,740
		Total	63,283

By Mexican Oil Products Corp.

July	Rig	Vessel, Destination—	Bbls.
7	Ss.	Cassimir, New York	46,052
27	Ss.	Cassimir, New York	12,058
		Total	58,110

By Moctezuma Terminal Co.

July	Rig	Vessel, Destination—	Bbls.
8	Ss.	Torres, Galveston	51,175

By East Coast Oil Co.

July	Rig	Vessel, Destination—	Bbls.
28	Ss.	Torres, Galveston	48,104
		Bunker deliveries	1,587
		Total	49,691

By Mexican Atlas Petroleum Co.

July	Rig	Vessel, Destination—	Bbls.
27	Ss.	Cassimir, New York	33,258
		Bunker deliveries	11,955
		Total	45,213

By Panuco Boston Oil Co.

July	Rig	Vessel, Destination—	Bbls.
13	Ss.	Nelson, Brunswick, Ga.	40,751

FROM TUXPAM

By Mexican Eagle Oil Co., Ltd.

July	Rig	Vessel, Destination—	Bbls.
14	Ss.	San Fraterno, Nassau f/o	*100,237
		Bunker deliveries	11,124
		Total	111,361

JULY SUMMARY

From—	
Tampico	7,411,997
Tuxpam	111,361
Total July, 1926	7,523,358
Total Juyl, 1925	8,247,410
Decrease July, 1926	724,052

DIVISION OF MOVEMENT

To—	
United States	5,383,096
Cuba and West Indies	876,994
South America	327,308
Mexican Coastwise	293,757
United Kingdom	223,936
Central America	91,537
Continent	36,197
Bunkers (to balance)	290,533
Total	7,523,358

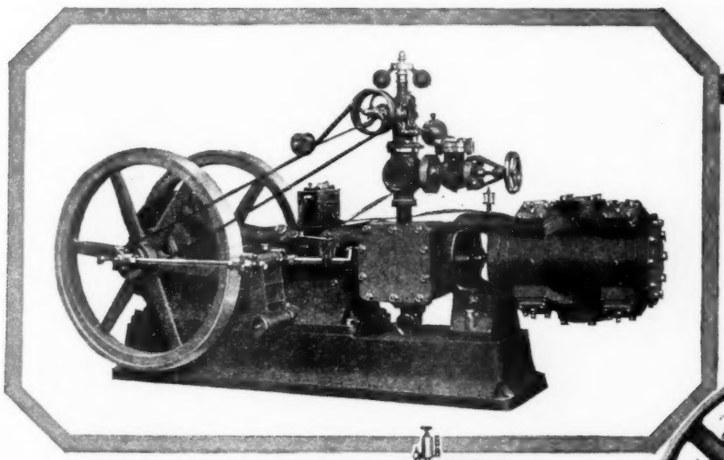
CLASSES

Crudes	3,171,050
Topped crudes	3,412,278
Distillates	549,497
Bunkers (to balance)	290,533
Total	7,523,358

*Denotes topped crudes.
†Denotes distillates.

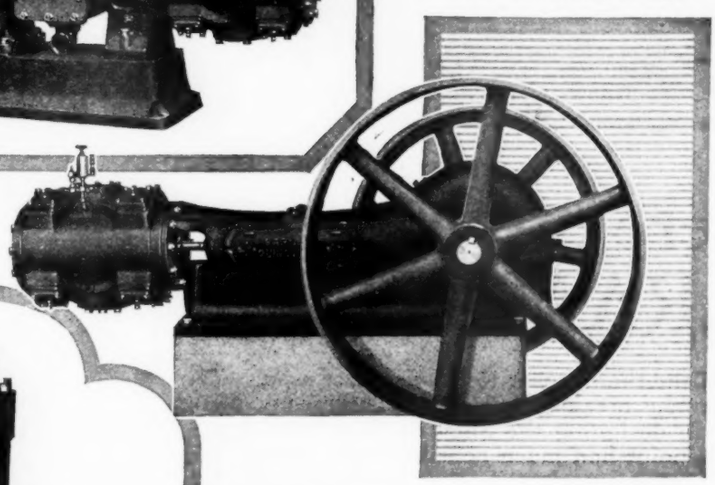
DEATH OF THOMAS JOY

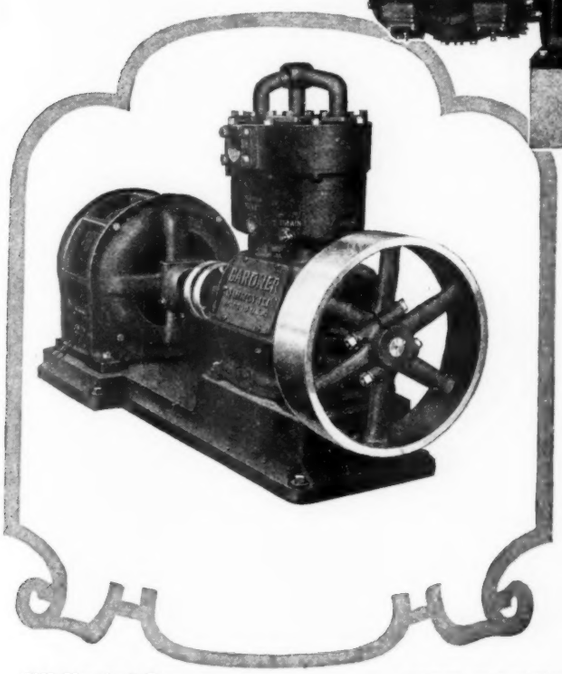
CHATHAM, Ont., Aug. 27.—Thomas Joy, formerly of Petrolia, died recently at London, Ont. He was about 55 years of age and unmarried. At one time he worked for the old Imperial Oil Co. at Petrolia, and later for the Canadian Oil Companies, Ltd.



Horizontal Compressor—Steam Driven, Single Stage

Horizontal Compressor—Belt Driven, Single Stage





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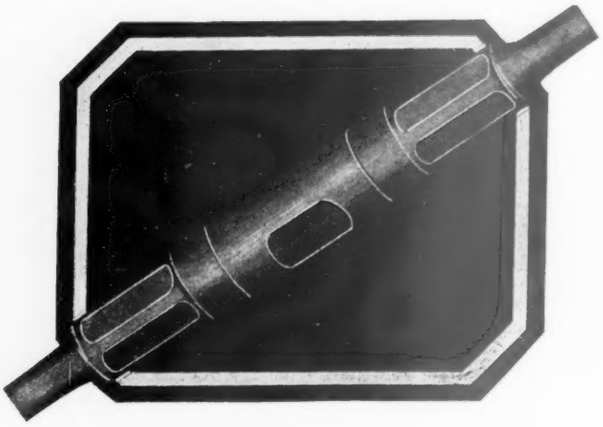
Norvell-Wilder Hardware Co., Houston, Beaumont and Shreveport
Republic Supply Co., Los Angeles

GARDNER GOVERNORS PUMPS COMPRESSORS

GARDNER



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FROM the time Sucker Rods were first used, enormous breakage has always occurred at the pin. In designing the Sheffield Rod therefore, this point had much consideration—with the result that a perfected joint was designed which was as strong as the rod itself. This perfected joint has reduced to a minimum pin breakage—and insured a tremendous saving to the Oil Industry.

SHEFFIELD SUCKER RODS

Sheffield Sucker Rods may be secured from all stores of the *Bovaird Supply Company* and the *International Supply Company* or direct from Kansas City. Made in three sizes: ¾", ⅝" and ⅞" in both Box and Pin and Double Pin Types.

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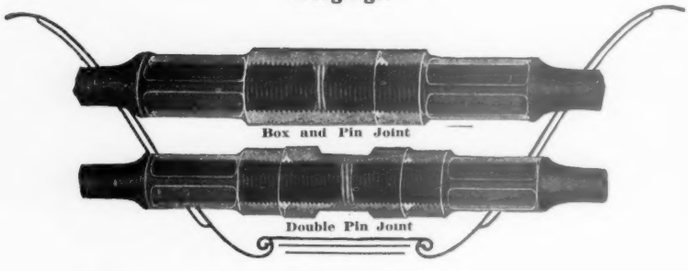
We manufacture New Billet Reinforcing Bars, Rail Steel Reinforcing Bars, Blue Annealed Sheets, Merchant Steel Bars, Merchant Iron Bars, Bolt and Nut Products, Sucker Rods, Pull Rods, Track Spikes, Forgings.



EASTERN FIELDS

(Continued from Page 76)

depth of 2,374 feet on the E. D. Dittro farm and shut down.

Doddridge County

In McClelland district, in Doddridge County, Trainer & Travis have a rig up on the Verne Noble farm. In Church district, Wetzel County, Bell Brothers have started to drill on the J. C. Hixenbaugh farm. In Union district, Lincoln County, Roy & McComas have started to drill a second test on the Randolph Sias farm. In Duval district, the United Fuel Gas Co. is fishing for lost tools on the Horse Creek Land & Mining Co.'s tract. In the same district, E. R. Cameron is fishing at a second test on the George P. Alderson farm.

Roane County Tests

In Walton district, Roane County, the United Fuel Gas Co. is the most active in starting development work. On the P. G. Kelly farm in Walton district, this company is rigging up. The same company has made locations on the William Campbell, N. M. and V. M. Kelly, L. M. Kelly, D. K. Littlepage, M. M. Jackson and Robert Cromwell farms.

In Lee district, Calhoun County, Godfrey L. Cabot has started to drill on the William Price farm. In McClelland district, Doddridge County, the Norbell Oil & Gas Co. is rigging up to drill deeper its test on the M. Underwood farm. It is dry in the upper sands. In McElroy district, Tyler County, Baker & Dowery have started to drill on the M. A. Lemasters farm. In Union district, Albert Neeley is due in the Big Injun sand on the William Rice farm.

Southwest Pennsylvania

Two miles south of Nineveh, Morris Township, Greene County, in the vicinity of the Rutan and Anderson farms, where good wells have been completed, Leonard Black & Co. have completed a second test on the William Tripp farm. It is a duster in the Nineveh 30-foot sand.

In Richhill Township, Burns and others have completed a test on the Peter Ashbee farm. It is a gasser in the Big Injun sand. In Gilmore Township, Township, Luther Phillips & Co. have a gasser in the Gordon sand at a test on the D. K. Phillips farm.

What have been for some time the best producers in Morris Township, Greene County, now show a decline in production. Unless the wells now drilling come in good producers, the pool will have shown its highest production. The gauges of the best five wells are as follows: Consumers Fuel Co.'s Nos. 2 and 3 T. F. Rutan, 60 and 75 bbls., respectively; Alfred Rutan, 117; Thomas Anderson, 100 bbls. and Carnegie Gas Co.'s No. 1 J. S. Rutan 85 bbls. There are about 15 wells drilling and as many more locations made in the immediate vicinity of the pool.

CENTRAL WEST FIELD

(Continued from Page 62)

and eastern central Indiana, where gushers galore were developed in the early years of those fields. Whether or not an attempt to go below the Trenton depends largely upon conditions, which exist when the Trenton is punctured by the drill.

At Martinsville, Clark County, during the recent heavy storm, a lightning bolt struck a 35,000-bbl. tank of the Illino's Pipe Line Co. and destroyed possibly 5,000 bbls. of crude oil and the tank.

A Wildcat Failure

The wildcat well of Hartman and others, 900 feet from the south line and 550 feet from the west line of the A. J. Vaught farm, in the southwest quarter of Section 3. Russell Township, Lawrence County, proved a dry hole at a depth of 1,865 feet. This test is about 6 miles west of the Wabash River from Russellville, 2 miles east and 2 miles south of the town of Birds, where the closest production is found.

In Lawrence Township, Lawrence County, the Ohio Oil Co. abandoned No. 1 on the L. B. Wilson farm, Section 25, and No. 25 on the J. E. Griggs No. 1 farm, Section 32, Bridgeport Township.

In Martinsville Township, Clark County, the Ohio Oil Co.'s No. 5 in the southwest corner of the A. W. Covalt farm, Section 31, pumped 10 bbls. at 1,497 feet.

In Montgomery Township, Crawford County, Thomas Flynn and others' No. 10 well, 320 feet from the north line and 600 feet from the east line of the J. P. Sager farm, Section 29, pumped 30 bbls. at 969 feet. It is only about 250 feet south of No. 9 which was a gas well. In Licking Township, the Peoples Bank & Trust Co.'s No. 4 well, 750 feet from the south line and 1,320 feet from the west line of the Silas Wilkins farm, Section 4, was a dry hole. In Honey Creek Township, John Phipps' No. 6 in the southwest corner of the J. R. Ravelle farm, Section 31, pumped 6 bbls. at 967 feet.

170 Bbls. First 24 Hours

The best of the later completions in the Allendale Field of Wabash Township, Wabash County, is Joe S. Young and others' No. 1 on the southwest corner of the Joseph Keyser farm, in the southwest quarter of the northwest quarter of Section 13, just east of Allendale. Top of sand was found at 1,435 feet and drilled 14 feet in where a pay sand was encountered, the well showing a production the first 24 hours of 170 bbls natural. E. C. Bothwell's No. 3 well, 225 feet from the north line and 600 feet from the east line of the Jesse Cisisil farm, Section 2, pumped 10 bbls. Top of sand at 1,550 feet and total depth 1,568 feet.

In the same field Joe S. Young, Jr., and others' No. 3 on the northeast corner of the E. Alka heirs farm, Section 1, produced an initial of 20 bbls. with sand topped at 1,385 feet and drilled 16 feet in the sand. Roberts and others' test west of Allendale, 600 feet from the north line and 250 feet from the east line of the William Shaffer farm, in the southeast quarter of Section 15, proved a real duster at a total depth of 1,600 feet. In Friendsville Township, same county, Healey and Lee drilled in a duster in a second test in the northeast corner of the C. Frick farm, Section 30, at 1,590 feet.

The wildcat well of Miller, Clark and others' in the northeast corner of the William Crump farm, in the northwest quarter of the southeast quarter of Section 19, Lick Prairie Township, Wabash County, and several miles west of good production, proved a failure at a total depth of 1,855 feet.

Operators in the Allendale Field and Wabash County in general are to the belief that the county's production will soon reach 3,000 bbls. daily. The five wells of the Mt. Carmel Oil Co., on the Leek leases is pumping about 300 bbls. daily and the Kogan heirs lease about the same amount. The wells on the Mack Madden land is reported doing 350 bbls. daily and the Holson-Dorney lands close to 250 bbls. per day. A lot of other wells in the field are keeping up their production well. The completion of the 170-bbl. well on the Joseph Keyser 100 acres, means that this lease will be drilled up at once by its owners. This lease was purchased by Mr. Young at $75 per acre.

Central Ohio Field

There were 32 wells completed in the Central Ohio Field, 4 of which were oil producers with an initial production of 46 bbls., 10 dry holes and 18 gas wells, since the last report, the activity shown being due to the rains that brought a bountiful supply of water for drilling purposes.

In Brown Township, Knox County, the Ohio Fuel Gas Co.'s No. 6 in the northeast corner of the John H. Workman 79 acres, Section 4, was dry, as was the East Ohio Gas Co.'s No. 4 in the northeast corner of the Fred Kick 100 acres, Section 3. In Jefferson Township, the Ohio Fuel Gas Co. made a Location for a test on the Thomas McMahon 106 acres, Section 11.

In Ashland County, Orange Township, the Logan Gas Co.'s test in the southwest corner of the Mrs. Jennie Murray 80 acres, Section 5, is a dry hole. This

New Gumbo Buster, Oil Tight, Cone Bearing 4" and 6" SWIVEL

Cone Bearing

Thirteen cones (of special steel) and upper and lower bearing plates are ground in sets assuring perfect fit and uniform distribution of load over bearing plate. The bearing plates are tested for hardness and cones are submerged in oil.

End Thrust

A ball bearing has been provided between the swivel stem head and upper member of swivel housing, which prevents friction and takes care of END THRUST when spudding.

Suspension and Balance

Suspension entirely on trunnions and no weight suspended on studs. Design and weight proportioned to insure perfect balance.

Oiling and Packing

Extra large oil reservoir and conveniently located oil holes for draining and refilling. Glands so constructed as to render it impossible for slush to reach cones. All stuffing box glands easily accessible and ample space provided for packing. This reduces possibility of sandy and gritty fluid cutting around wash pipe.

No Freezing of Grief Joint Connection

The use of jam nut provided will prevent freezing of connection between swivel and grief joint.

Fewer Parts

There are fewer working parts in this swivel and this simplicity of construction means more durability and less replacement costs.

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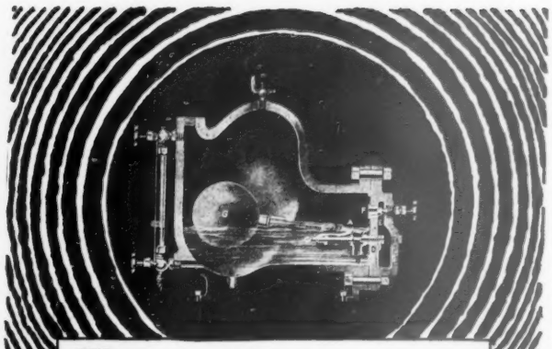

Big Price Reduction

Due to simplified design and increased production, this large capacity, continuous flow trap is now sold at greatly reduced prices. While the American is slightly higher priced than some traps of the same *listed size*, it costs *less* if compared on the basis of *quantity of condensation handled*. For a smaller, lower priced American will discharge as much condensation as most traps of a larger size.

The capacity of a trap is usually judged by the size of the outlet *pipe*, instead of by the size of the *discharge valve orifice*. In ordinary traps the orifice is very small compared to the size of the trap outlet; while in American Traps very large orifices are provided.

Another advantage of this construction is that dirt and scale pass through easily and will not clog the valve or cause chattering.

Other points of superiority which make the American a most economical and efficient trap are described in our Catalog S-5. Send for a copy.

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AMERICAN STEAM TRAP

company has made a location for a test on the Elizabeth Biddinger 129 acres, Section 5 and for No. 2 on the William H. Brandt 252 acres, Section 2, and drilling a test in the northwest corner of the P. M. Fluke 160 acres, Section 8. The Ohio Fuel Gas Co. made a location for a second test on the L. M. Helbert 160 acres, Section 8. In Hanover Township, the East Ohio Gas Co., is starting No. 3 in the southwest corner of the H. Bookman 80 acres, Section 26. In Sullivan Township, the Logan Gas Co., drilled a gas well on the Hattie Tedrow 72 acres, Lot 98, and in the northeast corner of the farm, and started the drill at a test in the northeast corner of the John J. Smith 50 acres, Lot 81. Same company drilled a dry hole in a test in the northwest corner of the J. C. Walters 160 acres, Section 28, Green Township. Same company made a location for a test in the southeast corner of the W. Frizzle 88 acres, in Lot 4, Troy Township. In the same township, Hulse & Kundtz are drilling a test in the southeast corner of the Ray Arnold 104 acres, Lot 2. This firm just drilled in a dry hole on the William Burns 160 acres, Lot 23, Clear Creek Township, Ashland County.

The Logan Gas Co. is drilling a wildcat well 750 feet from the north line line and 700 feet from the west line of the O. E. Daniels 50 acres, Section 23, Westfield Township, Medina County. Same company is drilling a test in the northwest corner of the Joseph Walters 86 acres, Section 20, Liverpool Township, and also drilling No. 1 in the northeast corner of the Harvey Mantz 62 acres, Lot 2, Spender Township. The East Ohio Gas Co. is drilling a test in the northeast corner of the Phoebe Stroskopf 9 acres, Section 3, Liverpool Township.

In Columbia Township, Lorain County, the Chemical Oil Co.'s test in the northeast corner of the Rose Adams 26 acres, Lot 30, is a very fair gas producer. The Logan Gas Co., has an average gas well at a test 1,000 feet from the north line and 50 feet east of the highway on the Joseph A. Rising 89 acres, Lot 90, Granger Township.

Good Gas Well in Wayne County

In Wayne County, Chippewa Township, Westheffer & Winger struck a nice gas well at a test in the southeast corner of the A. Zollinger farm, Section 29. In Plain Township, the East Ohio Gas Co. is drilling No. 4 on the J. G. Yocum 162 acres, Section 35. In Congress Township, Glen Harmon and others' made an excellent gas strike at No. 3 in the southwest corner of the Clayton Good 44 acres, Section 36, being the best gas well found in Wayne County for a long period. Warren Palmer and others also struck a gas well above the average in the southeast corner of the S. A. Swanson 86 acres, same section. Empire Gas & Fuel Co. struck a good gas producer in the southeast corner of the Ora Kenney 74 acres, Section 36, and the Logan Gas Co. found one above the general average at No. 3 on the O. E. Frank 160 acres, Section 36. Ohio Fuel Gas Co., drilled a good gas producer in the northeast corner of the Stanley Smith 134 acres, Section 32. Logan Gas Co., starting No. 4 on the O. A. Frank 160 acres, Section 36, and No. 1 in the northeast corner of the H. B. Holmes 154 acres, Section 32, same township. In Chester Township, the Logan Gas Co. is drilling a test in the southwest corner of the D. Hohenshil 79 acres, Section 18. In Baughman Township, same company drilled a dry hole in a test in the northwest corner of the Lorena King 80 acres, Section 17.

In Holmes County, Hardy Township, the Pure Oil Co.'s No. 3 in the northwest corner of the Warren E. Close 84 acres, Lot 9, is credited with an initial of 40 bbls. while its No. 1 in the southeast corner of the Mrs. Wilson Pyers farm, Lot 34, only shows for a couple of barrels. East Ohio Gas Co. is drilling No. 1 in the northeast corner of the C. D. and Viola Groff 132 acres, Lot 12. Empire Gas & Fuel Co., drilling No. 3 Delphia Nethrow 162 acres, Lot 10, and starting No. 2 on the Lewis Donald 24 acres, Lot 12.

In Paint Township, Holmes County, the Logan Gas Co.'s test on the Levi Weaver 48 acres, Lot 5, was shot into a nice gas well. This company made a location for a test on the Emanuel B. Weaver 150 acres, Lot 33, and for No. 1 on the E. E. Troyer 48 acres, Lot 5. Ohio Fuel Gas Co. is drilling a second test on the Isaac Y. Miller 45 acres, Lot 45. In Kilbuck Township, the East Ohio Gas Co. landed a duster at a test in the northwest corner of the Christian Miller 80 acres, Lot 22. Same company is drilling No. 1 W. H. Mohr 72 acres, Lot 13 and starting a test in the southwest corner of the Charles Allison 75 acres, Lot 19. The Ohio Fuel Gas Co. drilled a dry hole at a test on the S. J. Miller 82 acres, Lot 22. Klise-Eckstein-McCann Co. is drilling a test on the Rosa Bricker 40 acres, Section 17, Richland Township, same county.

In Carthage Township, Athens County, E. A. Sweeney and others' test on the Dent Ackley farm, Lot 16, is showing for 250,000 feet of gas, while No. 1 on the Daniel Ackley 27 acres, same lot, shows for 1,152,000 feet, with No. 2 drilling. The Logan Gas Co.'s test on the northwest corner of the Isaac Bail 44 acres, Lot 32, was dry in the Maxon sand and drilling deeper. Some company has a dry hole in a second test in the southwest corner of the Easton Chase 120 acres, Lot 3, and a good gas well at a test in the northwest corner of the Isaac and Elva Pierce 45 acres, Lot 25, and drilling No. 1 on the Myrtle Runyon 24 acres, Lot 6. In Waterloo Township, the same company found a duster at a test in the southeast corner of the P. C. Shalis 82 acres, Section 7. Daily and Son have a light gas well at a test in the northwest corner of the Joseph Robinson 68 acres, Section 30, Cannan Township, Athens County.

Cassingham and Bell Brothers drilled in a gas well in No. 15 on the Cassingham 73 acres, Lot 5, Newcastle Township, Coshocton County, and drilling No. 16 same farm. The Logan Gas Co. drilled a good gas well on the Howard Beeks farm, of 140 acres. Section 7, Wheeling Township, Guernsey County.

In the Cleveland Field, in Dover Township, Cuyahoga County, the Wiser Oil Co., drilled an average gas producer on the C. Nichols farm, Lot 28, and a very good gasser in the northeast corner of the G. T. Promfrett 63 acres, Lot 27, the gas being found in the Newburg sand. Nos. 2 and 3, same farm, are starting. The Logan Gas Co. has a nice gas producer on the W. E. Elliott 8 acres, Lot 17.

In Brown Township, Vinton County, Kastler and others' Nos. 1 and 2 on the John and Mary Curran farm, showing for 2 bbls. each.

Logan Gas Co. is drilling No. 2 on the W. L. Kinnson farm, of 160 acres, Section 12, Franklin Township, Jackson County.

FIRST AID TRAINING

The Petroleum Experiment Station, United States Bureau of Mines, Bartlesville, Okla., announces the following revised schedule of first aid training classes that are being conducted by the personnel of Training Car No. 6 at refineries and in the oil fields of Oklahoma: Garber Field, August 30-September 4; Tonkawa Field, September 6-September 11; Burbank Field, September 13-September 18; Barnsdall, September 20-September 25; Avant, September 27-October 2; Tulsa, October 4-October 9; Sand Springs, October 11-October 16. Upon the completion of this schedule, Car 6 will probably visit Yale, Cushing, Drumright, Kiefer, Okmulgee, Boynton, Cromwell Field and Oklahoma City. A definite schedule will be sent out soon giving dates of training at these places. The Bureau of Mines will gladly arrange for training in any other places in Oklahoma if the Bartlesville station is notified at once.

Look at these teeth!

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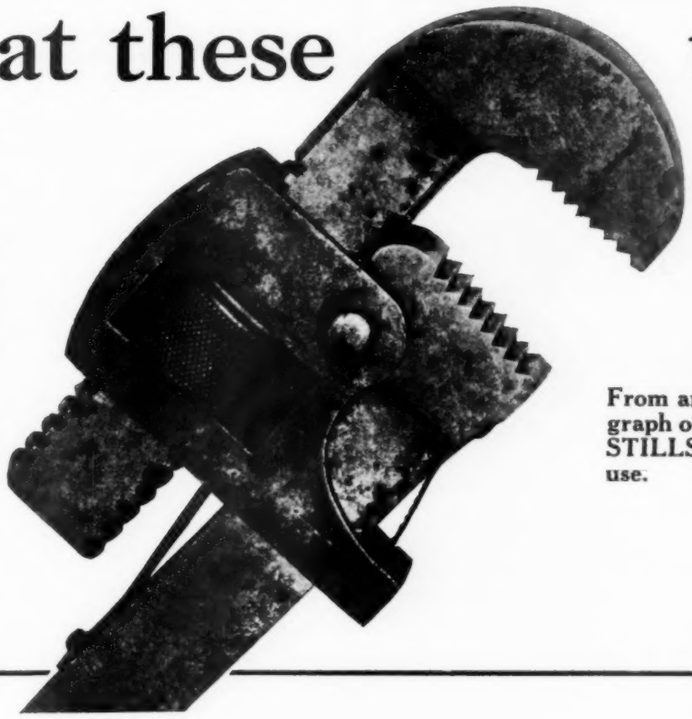

From an unretouched photograph of a 14-inch Walworth STILLSON after 40 years of use.

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HERE is a STILLSON that has put in 40 years of hard work. Take a look at the teeth—the photograph shows them slightly magnified and without retouching.

These are the original teeth. They have never been sharpened or tinkered with in any way. They never needed it and they don't now.

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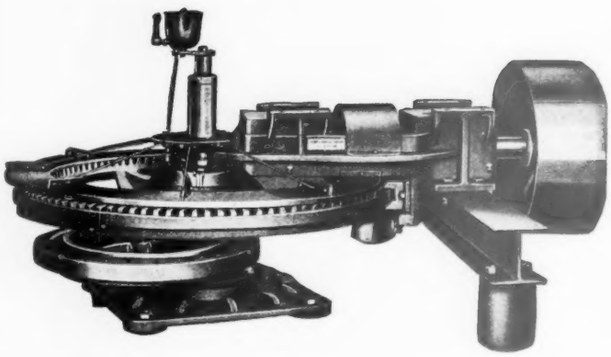

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AT THE PRESENT TIME is is being used in every oil field where powers are practicable and not only that, but the demand is steadily growing.

WHY.....? Here are three reasons:

First: The construction—low, strong, powerful, and built for long life.

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TEXAS GROSS CRUDE OIL PRODUCTION SHOWS INCREASE IN SECOND QUARTER

Gross crude oil production in Texas during the second quarter of this year registered an increase of 1,245,347.8 bbls. over the output of the state during the first quarter, according to reports filed with the State Auditor for taxation purposes. The value of the production during the second quarter was $6,008,992.29 greater than during the first quarter, the production during the second quarter being 31,072,381.9 bbls. as compared to 29,827,034.1 bbls. for the first quarter, while the value of the oil produced in the second quarter was $62,348,393.57 as compared to $56,339,401.28 for the first quarter. The report as filed with the State Auditor, follows:

COMPANIES REPORTING PRODUCTION FOR THE QUARTER ENDING JUNE 30, 1926

Name and Address—	Barrels	Value
Adamson Oil & Gas Co., Mexia	.....	$ 211.16
Atlas Oil Corp., Humble	3,616.00	5,605.00
Atlantic Oil Royalty Corp., New York, N. Y.	2,187.72	2,804.15
Amicable Life Insurance Co., Waco	406.50	583.50
Anchor Oil Co., Dallas	3,604.19	8,710.03
Alamo Oil Co., Brownwood	324.00	689.84
Aztec Pet. Co., San Antonio	369.59	461.98
Amarillo Oil Co., Amarillo	3,018.23	4,859.35
Adams & Oldham Oil Co., Beaumont	1,317.42	2,041.48
Arlington Oil & Gas Co., Arlington	134.00	268.13
W. R. Andrews and others, Putnam	2,892.08	5,957.68
The Ashe Syndicate, Fort Worth	1,187.72	2,802.74
Atlantic Oil Producing Co., Dallas	256,123.66	530,861.24
Andrews Petroleum Corp., New York, N. Y.	5,836.00	7,418.95
H. Appleman, Tulsa, Okla.	61.14	132.97
Atkinson & Sanderfer, Breckenridge	9,365.29	20,269.59
Alonso Jr. Oil Producers, Laredo	3,487.04	4,191.18
Artex Oil Co., Wichita Falls	4,986.63	12,481.98
Adams, Brown & Lickey, Wichita Falls	1,421.52	3,478.60
Arkansas Fuel Oil Co., Pittsburgh, Pa.	5,096.33	11,116.38
Arkmo Oil Co., Somerset	2,088.35	3,666.57
American Refining Co., Inc., Wichita Falls	78,477.46	144,455.11
Apple-Brandeberry Oil Co., and others, Wichita Falls	24,216.64	62,221.90
A. L. Agate, Trustee, Eastland	.....	.....
N. L. Amster, Boston, Mass.	2,981.36	4,356.92
Amerada Petroleum Corp., Tulsa, Okla.	50,528.52	94,782.68
J. S. Abercrombie Co., Houston	28,392.52	44,146.97
The Ascot Co., Wichita Falls	18,949.61	51,285.00
All-American Oil & Gas Co., Oklahoma City, Okla.	53.42	121.27
Associated Petroleum Co., Inc., Fort Worth	5,066.05	10,873.72
Asociated Oil Co., San Francisco, Calif.	30,190.81	38,223.32
Buckeye Petroleum Co., Wichita Falls	4,429.17	7,770.96
Banner Oil Corp., Wichita Falls	463.14	967.50
J. O. and Mollie B. Baker, Breckenridge	6,796.00	14,961.20
Bartlett Production Co., Thorndale	4,534.72	10,701.96
Burk-Venus Oil Co., Dallas	229.27	522.52
E. W. Boyd, Cisco	3,314.56	8,137.24
William Bartlett Co., Electra	665.70	1,778.03
Blue Bonnet Petroleum Corp., San Antonio	1,621.18	2,978.95
Brinkley Producing & Refining Co., Pittsburgh, Pa.	599.34	1,267.04
Brady Brothers, Ardmore, Okla.	145.53	346.64
R. T. Belcher, Wichita Falls	95.62	221.84
Biggs Oil & Gas Co., McKinney	1,688.00	4,333.79
Big Indian Oil & Development Co., Gainesville	828.15	1,656.30
Bynum & Palmer, Rockdale	554.49	1,381.66
Estate of George I. Brown, Red Bank, N. J.	1,421.50	2,426.73
William A. Biel, Von Ormy	48.00	96.24
Bullington, Lee & Pendleton, Wichita Falls	32,258.47	85,423.09
J. H. S. Bonner and others, Wichita Falls	4,569.92	12,922.50
Bonchil Co., Wichita Falls	10,791.57	26,784.00
W. W. Bynum, Rockdale	2,202.55	5,354.24
Bexata Oil Co., San Antonio	2,376.25	4,433.93
Barbour Oil Co., Houston	11,321.85	25,339.43
T. F. Bush and E. S. Cluck, Waco	301.00	436.45
Buckeye Development Co., Columbus, Ohio	488.87	940.95
Borealis Oil Co., Oklahoma City, Okla.	6,696.49	15,927.64
Barnsdall Oil Co., Tulsa, Okla.	89,441.80	210,048.72
C. W. Boller, Wichita Falls	1,835.81	4,729.62
F. C. Baldwin and others, Fort Worth	5,630.24	14,899.22
F. A. Beatty, Vernon	1,320.00	2,508.00
Bashara & Bashara, Waco	344.00	511.20
Black Cat Oil Co., Electra	1,943.22	4,283.19
Bailey & McClure, Wichita Falls	508.56	1,152.79
Bluebonnet Oil Co., Wichita Falls	890.20	2,257.81
Barkley & Meadows, Wichita Falls	6,732.45	16,887.20
British American Oil Prod. Co., Wichita Falls	20,786.09	51,021.50
Mrs. Carrie L. Brown and others, Orange	47,090.13	73,388.12
Dr. E. W. Brown Estate, Orange	3,350.40	5,249.09
Brown & Co., Inc., Cisco	466.14	756.01
Anna Belle Oil Co., Dallas	1,713.92	4,404.26
Bass & Dillard, Wichita Falls	1,754.24	4,384.19
Booth Oil Co., Olney	771.00	1,782.86
Barkley & Meadows, Wichita Falls	101,972.91	243,707.48
H. J. Bruce, Wichita Falls	2,008.42	4,507.87
Bleakley & Kinnison, Wichita Falls	1,412.20	3,110.47
Big Lake Oil Co., Pittsburgh, Pa.	1,817,978.98	3,957,128.36
Big State Oil Corp., Dallas	2,290.05	3,035.19
J. F. Bashara, Houston	18,969.30	29,499.32
Mills Bennett, Houston	7,763.74	12,664.38
Mills Bennett Production Co., Houston	24,857.26	41,417.52
Bryan Oil Corp., Wichita Falls	2,054.33	4,746.09
Brothers Oil Co., Inc., Tulsa, Okla.	6,909.17	17,919.24
Big Bend Oil & Gas Co., Laredo	1,952.09	2,400.81
S. R. Buchanan, Batson	18,025.13	27,964.91
Bay Oil & Gas Co., Mirando City	2,639.87	3,262.53
Bowman Oil Co., Rockdale	4,026.04	9,661.35
Burns & Maxson, Wichita Falls	11,082.59	27,021.43
Burns & Maxson, Wichita Falls	19,037.67	46,532.76
Bridwell & Mayfield, Wichita Falls	10,092.45	25,770.24
M. J. Bashara, Wichita Falls	4,239.69	10,571.84
Baker Oil Co., Inc., Houston	3,502.35	5,638.64
Ginsburg & Bohner, Burkburnett	5,335.48	12,982.99
The Braden Co., Eastland	4,063.07	9,702.40
Blair & Kell, Dallas	21,658.65	54,300.84
T. G. Barkley, Sour Lake	1,570.35	2,436.00
L. T. Burns, Wichita Falls	12,184.85	30,670.12
Brownwood Producing & Refining Co., Brownwood	2,992.09	6,841.69
J. F. Brady, Ardmore, Okla.	409.92	973.12
Breckenridge Gasoline Co., Toledo, Ohio	320.06	697.60
Beasley Drilling Co., Electra	6,263.65	15,839.84
C. U. Beasley, Electra	4,626.10	10,664.32
Brannon & Murray, Cisco	11,480.67	29,527.34
J. G. Bradstreet & Son, Cross Plains	329.95	835.43
Bridwell & Heydrick, Trustee, Wichita Falls	6,256.12	15,753.12
Barkley & Conway, Ranger	69,870.36	183,750.08
Barkley, Crotty, Six & Little, Ranger	3,316.88	7,512.66
Bridwell & Heydrick Oil Co., Wichita Falls	147,674.02	365,620.62
Barkley & Crotty, Ranger	10,858.29	26,042.11
Cintex Petroleum Co., Cincinnati, Ohio	36,802.96	44,277.99
W. C. Cole, Wichita Falls	2,979.00	7,061.97
Charter Oil Co., Brownwood	4,398.37	9,128.32
Cram & Clark, Wichita Falls	739.51	1,784.59
Clara Oil Co., Wichita Falls	340.13	825.44
Clem Oil Co., Houston	469.74	736.63
Cottle Oil Co., San Antonio	2,673.75	3,549.53
California Co., Colorado	221,387.00	356,475.76
Corzelius Brothers, Eastland	1,079.95	2,401.92
Continental Supply Co., St. Louis, Mo.	814.25	1,715.16
Canyon Oil & Gas Co., Inc., Cross Plains	28,263.01	69,878.50
Carter, Fine & Carter, Wichita Falls	4,073.48	8,047.51
W. W. Carlin, Ranger	406.56	906.62
Carlin & Dewhirst, Ranger	408.88	985.40
Clear Creek Oil Co., Brownwood	344.24	753.60
Cornhusker Oil Co., Lincoln, Neb.	5,986.09	7,337.52
Cochard & Williams, Moran	77.22	163.71
Chenault Palmer & Burch, Wichita Falls	16,965.27	44,125.57
Caruthers Co., San Antonio	2,780.81	4,925.56
J. D. Clay, Houston	4,078.01	6,158.20
W. H. Coons and Hal G. Hotchkiss, Graham	3,814.68	8,649.79
Cowling & Hoppes, Wichita Falls	77.66	205.80
C. W. M. T. Oil Co., Wichita Falls	5,880.72	14,727.17
Camp Oil & Gas Co., Wichita Falls	10,249.92	25,779.53

The World's Choice!

for treating "Cut Oil"

Process Patented!

That the Oil Producers of the world have, by their patronage, in effect cast a tremendous majority vote for TRET-O-LITE as the correct method for treating "cut oil"—is a fact of great significance.

Salesmen can create limited markets, but to gain and hold world leadership their efforts must be aided by the kind of merit that causes a product to *SELL and RE-SELL ITSELF.*

TRET-O-LITE is by far the most widely used method for treating petroleum emulsions *because it is the only scientifically correct method.* This explains why it is unsurpassed in simplicity, rapidity, thoroughness, and economy. The producer who fails to investigate the leading method before making his decision is doing himself an injustice. Let us send our nearest field expert to see you, without obligation.

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St. Louis, Mo.

Offices and Plant: Webster Groves, St. Louis County, Mo.

Tret-O-lite

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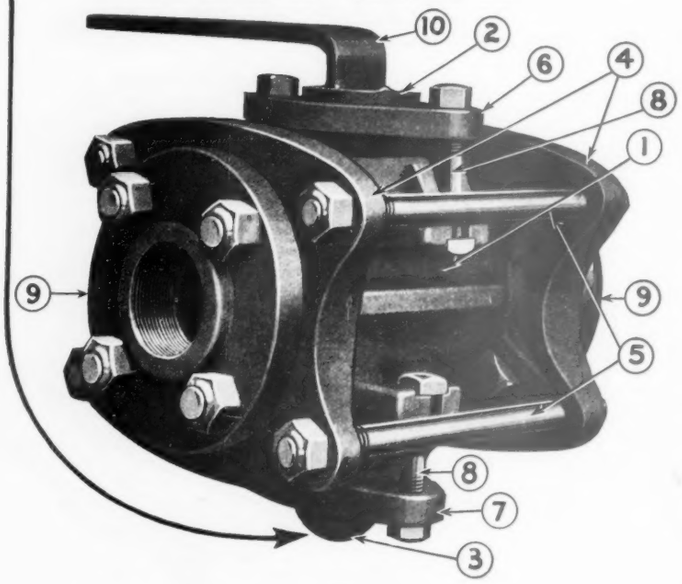
DURIRON
PLUNGER RELEASE
PLUG VALVE



1. BODY (Duriron); 2. PLUG (Duriron); 3. PLUNGER (Duriron); 4. COMPOSITE FLANGES (semi-steel or Alcumite); 5. THROUGH BOLTS (steel or Alcumite); 6. UPPER GLAND (semi-steel or Alcumite); 7. LOWER GLAND (semi-steel or Alcumite); 8. GLAND BOLTS (steel or Alcumite); 9. COMPANION FLANGE (semi-steel or Alcumite); 10. WRENCH (wrought iron).

Items 4 and 5 put the valve entirely under compression, making breakage of body impossible.

The Duriron acid-proof Plunger Release Plug Valve is the result of long experience in solving the corrosive problems of industry.

Here is a valve that is quick opening; quick closing; with free operation of moving parts, and having a positive release feature* that is bound to free the valve if it becomes sulphated and sticks.

All surfaces coming in contact with the liquid handled are Duriron, which is supremely resistant to acid, strong or weak, hot or cold. Duriron has stood "the acid test" for many years.

Where this valve is subjected to corrosion on the outside—from drip, splash or spillage—Alcumite flanges, glands and bolts render it immune.

Produced in the following sizes:
1″, 1½″, 2″, 3″, 4″ and 6″.
Let us send complete information.

*If this valve becomes stuck from sulphate, it is only necessary to take out the wrench (furnished with each valve) and give the plunger a tap or two, breaking the seal, and permitting it to turn freely. Severe and continued blows on the plunger will in no way injure the valve, nor cause it to leak.

Duriron is produced only by
The DURIRON COMPANY
DAYTON·OHIO

EDWARD SOPH, Sales Representative
215-16 Alexander Bldg., Tulsa, Oklahoma

Name and Address—	Barrels	Value
Cosa Oil Co., Cisco	720.48	1,921.52
Conner Son & Cloughley, Gotebo, Okla.	7,905.62	19,260.24
Cowling & Newall Oil Co., Wichita Falls	622.16	1,512.09
Cranfill Brothers Oil Co., Wichita Falls	756.08	1,768.21
N. B. Chenault, Wichita Falls	2,794.25	7,437.58
Edwin B. Cox, Ardmore, Okla.	4,265.33	9,577.36
Culbertson Co., Wichita Falls	17,692.80	46,183.39
Cline Oil Co., Wichita Falls	2,747.89	6,594.93
Colony Oil Co., Wichita Falls	4,115.48	9,189.18
Commercial Petroleum Co., Wichita Falls	1,488.57	3,681.90
J. S. Cosden, Inc., Fort Worth	74,243.86	194,370.43
Christie Brothers, Wichita Falls	10,928.71	25,749.69
N. F. Clark, Wichita Falls	152.45	299.83
Coppock & Coleman, Iowa Park	2,327.71	5,773.14
J. H. Cottom & Co., Iowa Park	3,350.26	7,992.47
Canyon Oil Co., Seminole, Okla.	176,986.27	325,485.75
James K. Crawford, Tulsa, Okla.	9,841.85	27,380.62
Caltex Oil Co., Spokane, Wash.	686.00	1,186.78
P. A. Chapman, Jr., Eastland	839.93	1,857.20
Capitol Oil Co., Orange	4,596.48	7,106.01
W. B. Corlett, Wichita Falls	881.86	2,029.47
W. H. Crowe and Elmer Crowe, Wichita Falls	50.00	126.26
Clear Lake Oil Co., Rockdale	6,957.50	16,917.55
Crown Oil & Refining Co., Houston	19,690.95	30,583.01
Crown Central Petroleum Corp., Houston	99,403.21	137,675.71
Chicago Oil & Land Co., Inc., Rockdale	1,025.85	2,466.89
Caprito & Graham, Breckenridge	778.90	1,650.01
Charles E. Clough, Wichita Falls	2,032.68	4,751.39
P. A. Chapman Estate, Waxahachie	29,830.02	66,187.54
W. D. Cline and others, Wichita Falls	579.31	1,448.27
Conway Brothers, Cross Plains	16,120.61	40,655.23
Cranfill & Reynolds, Cisco	47,434.74	101,747.52
Conway Brothers and others, Cross Plains	7,739.99	19,965.97
Campbell Royalty Co., Wichita Falls	1,019.78	2,612.40
Cranfill Brothers Oil Co., Dallas	18,965.70	47,546.10
Aaron Cohen, Wichita Falls	18,508.70	45,584.99
C. G. Chandler, San Antonio	2,600.54	3,199.62
Clark, Harbin & Baldridge, Wichita Falls	9,615.08	22,090.52
Crystal Oil Co. of Texas, Denver, Colo.	2,572.85	5,806.91
Caldwell Guadalupe Pick Up Sta., Inc., Luling	4,378.67	5,446.14
Cohen & Lebow Trust, Wichita Falls	1,196.37	2,941.71
Carl G. Cromwell, Big Lake	28,254.52	50,347.96
Consolidated Oil Co. of Texas, Wichita Falls	65,107.35	162,713.86
C. G. & C. Oil Co., Wichita Falls	922.74	2,008.62
Coffey & Graham, Wichita Falls	604.64	1,504.44
Cisco Oil Co., Tulsa, Okla.	23,552.78	51,240.08
Dillon-Glasscock Co., San Antonio	616.34	1,071.96
Dickey Oil Co., Cisco	2,594.14	5,947.00
Dallas-Bradford Oil Co., Dallas	517.20	989.57
Deep Sands Syndicate, Corsicana	566.00	707.50
Dailey & Dowell, Cisco	3,272.98	7,749.33
Jack Dalton Oil Co., Fort Worth	1,783.01	4,106.05
S. B. Daniel, Wichita Falls	1,836.88	4,712.40
Dixon Creek Oil Co., Inc., Amarillo	278,107.24	388,143.66
Dayton Oil Co., Dayton	1,490.53	2,297.23
Den-Wich Oil Co., Inc., Abilene	1,027.70	2,546.13
Douglas Oil Co., Tulsa, Okla.	2,115.20	3,172.80
Drillers Development Co., Electra	2,690.59	6,626.77
Dale-Knotts Oil Co., Wichita Falls	207.01	528.55
Duffield & Howard Oil Co., Tulsa, Okla.	1,898.12	3,796.43
Dale Oil & Refining Co., Wichita Falls	16,959.55	41,681.92
Dailey McGee and others, Cisco	839.00	1,879.03
Caroline A. Davis, Somerset	674.01	1,197.24
Dixon & Reeder, Wichita Falls	298.74	424.85
J. S. Dennis, Moran	2,275.45	4,991.25
Dale Oil Corp., Wichita Falls	42,257.07	106,434.48
Duquesne Oil Corp., Eastland	823.38	2,019.93
Dibble Oil Co., San Antonio	2,514.60	3,136.84
John A. Deering, Houston	12,381.90	22,376.01
Dale & Crawford, Electra	1,103.60	2,912.51
Dominion Oil Co., Tulsa, Okla.	2,993.59	6,744.40
E. A. Dale Special, Electra	72.38	148.38
J. W. Duncan, Wichita Falls	9,346.73	23,466.98
Devonian Oil Co., Tulsa, Okla.	2,496.67	4,210.01
Dixie Oil Co., Inc., Shreveport, La.	5,965.84	10,554.09
Davis-Hart Co., Wichita Falls	7,463.07	18,149.55
R. P. Dorian, Wichita Falls	1,212.03	2,738.11
L. R. Davis, Tulsa, Okla.	110.28	168.12
Dorian & Kemp, Wichita Falls	38.01	73.50
Derby Oil Co., Dallas	2,465.48	5,070.48
Eastham & Tarver, Hondo	4,000.00	7,000.00
Empire Gas & Fuel Co., Fort Worth	14,340.09	36,977.47
Eastland Oil Co., Fort Worth	33,581.18	62,265.18
East Batson Oil Co., Batson	18,851.52	29,045.25
Empire Gas & Fuel Co., Bartlesville, Okla.	249,266.59	509,600.62
Evans Oil Co., San Antonio	5,146.36	6,539.07
Electra Production Co., Inc., Electra	2,823.10	7,080.39
E. S. Easton, Wichita Falls	2,742.63	6,820.65
Ebberts, Folloure & Hebert, Beaumont	1,611.35	3,090.15
Eddy Oil Co., Beaumont	528.54	831.78
David Erickson, Wichita Falls	243.07	606.37
Herman Earnest, Ranger	262.04	591.92
Erie Investment Limited of Texas, Toronto, Canada	900.28	2,061.64
Earnest Oil Co., Rockdale	2,814.90	6,764.39
J. E. Eggers, Trustee, San Antonio	1,229.96	2,275.70
Eureka Producing Co., Tulsa, Okla.	22,446.58	54,337.49
Ellis & Anderson, San Antonio	199.05	352.36
Evangeline Petroleum Co., Wichita Falls	2,052.21	5,151.04
El Paso-Burkburnett Oil Co., El Paso	72.15	171.78
Fritz Fuchs, Taylor	238.00	507.17
Alex Freedman, Corsicana	46.46	83.63
Fresno Oil Co., Wichita Falls	25,079.46	61,820.87
Freeman-Hampton Oil Corp., Wichita Falls	13,560.40	34,227.63
W. R. Ferguson, Wichita Falls	813.71	2,095.24
Ft. Ring Oil & Gas Co., Fort Worth	871.59	2,252.89
Foster & Sandford, Fort Worth	1,543.41	2,587.55
Fountain Production Co., Saratoga	5,067.71	7,902.65
Perry I. Fox, Ranger	276.99	574.28
Ferguson, Hawkins & Hester, Wichita Falls	1,851.76	4,810.87
Fogle Oil Co., Minerva	2,760.00	6,248.62
Fuqua & Hipp, Grandfield, Okla.	1,753.68	3,963.31
Fisher & Gilliland, Wichita Falls	16,755.80	42,341.63
W. B. Flynn, Beaumont	8,002.49	12,941.65
Fisher & Gilliland, Wichita Falls	336.92	855.76
Farish & Ireland Lease, Houston	4,551.35	6,116.42
Ferguson & Watson, Electra	2,498.26	6,303.68
Five Rivers Oil & Gas Co., Wichita Falls	974.48	2,546.89
Thomas Forbes, Graham	208.45	443.14
Fuller, King & Daniel, Wichita Falls	4,182.52	11,140.27
D. W. Franchot & Co., Tulsa, Okla.	217.34	480.53
Henry J. Fisher, Newport, N. Y.	5,366.54	12,056.85
Frontier Oil Co., San Antonio	16,387.56	36,115.19
F. H. E. Oil Co., Sherman	5,142.21	10,850.51
Fleming & Kimbell, Sherman	22,642.46	34,612.62
E. E. Fuller, Wichita Falls	366.39	833.96
Fisher-Gilliland-Gates-Nutt, Wichita Falls	4,690.17	12,265.09
Fensland Oil Co. of Texas, Denver, Colo.	10,673.33	24,041.55
Gholson, Moorman, Dorsey and others, Ranger	3,320.67	8,770.19
W. F. Gutzler, Wichita Falls	213.26	506.06
Gultex Production Co., Waxahachie	4,849.52	12,414.85
Glasscock Oil Co., Lytton Springs	258.31	271.83
Gates Oil Co., Oklahoma City, Okla.	16,681.99	28,609.82
General Oil Co., Houston	1,828.37	4,601.66
Gulf Coast Oil Corp., Houston	23,194.38	35,947.30
Galena-Signal Oil Co., Houston	93,996.92	159,748.05
D. Grady, Electra	761.62	1,991.73
R. F. Gilman and others, Cisco	48.72	107.18
Gilbert Co., Beaumont	6,771.27	10,499.26
Glass Brothers, Minerva	1,238.45	2,505.10
Gutzler & Cottingham, Indianapolis, Ind.	68.89	152.78
Godley Oil & Gas Co., Dallas	16,801.43	39,005.45
Rosa V. Glasscock, San Antonio	712.03	1,320.75
Gunn Production Co., Cross Plains	9,191.00	21,598.28
Glasscock Leasing Syndicate, San Antonio	3,262.82	6,322.17
Grand Duke Producing Co., Muskogee, Okla.	263.94	596.74
Graham & Lash, Moran	7,579.27	17,577.79
Gardner Brothers & Collins, Wichita Falls	3,676.15	8,937.42
P. F. Gwynn, Wichita Falls	2,939.43	7,263.75
P. F. Gwynn, Wichita Falls	1,043.27	2,415.45
Gwynn-Boyd Drilling Co., Wichita Falls	2,514.24	6,153.25

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For twenty years D&B has made an intensive, scientific study of pumping oil, developing a variety of special appliances which comprehend every pumping operation, and are unsurpassed in efficiency, economy and reliability in service. In every active field in the world these appliances are setting new standards of superior performance and low cost operation. No well is completely equipped, nor can be one hundred per cent efficient, without them.
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BRANCH STORES: COALINGA, BAKERSFIELD, TAFT, TORRANCE, SIGNAL HILL & SANTA FE SPRINGS, CALIF.

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BARSCO

All-Steel Braden Heads

—forged steel *can't break*

Here's another BARSCO product that, because of its superior design and *forged steel* construction, renders a *longer service* and has many advantages over the ordinary cast iron head.

Will stand up under the most severe service *—no danger of breakage.*

The *forged steel* from which the Braden Head is made has a carbon content of from 50 to 60 points and tensile strength of from 90,000 to 110,000 pounds.

For working pressures up to 4000 pounds

"Barsco" Forged Steel Braden Heads are provided with an inner thread into which a short piece of casing is screwed. The head is then lowered into position below the derrick floor and set up. Outlets are threaded for 2-inch or 3-inch pipe. These heads are furnished with rubber rings for packing and a hinged iron ring which can be removed, allowing the couplings to be pulled through head without breaking any connections. Furnished with either solid or split Stuffing Box.

Prices and weights furnished upon application.

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Manufacturer's Representatives

B. & A. Specialty Co. Tulsa, Okla.
Robert J. Miller Co., Houston, Texas
Miller Tank & Supply Co., Casper, Wyo.

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Name and Address—	Barrels	Value
Gallagher & Lawson and others, Desdemona	2,933.18	7,281.52
Gallagher & Lawson and others, Desdemona	572.46	1,257.40
Gallagher & Lawson and L. F. Brothers, Desdemona	680.32	1,694.55
Gordon Oil Co. of Texas, Wichita Falls	166.13	451.80
Golconda Oil Co. No. 1, Wichita Falls	359.20	862.50
Granite Oil & Gas Co., Ridgway, Colo.	357.54	924.88
Grup No. 1 Oil Corp., Big Lake	960,032.93	2,086,958.18
Golden Cycle Oil Co., Dalhart	260.85	555.61
Gilliland, Scott, Omohundro and others, Wichita Falls	1,327.44	3,360.75
Grayce Oil Co., Wichita Falls	16,672.66	42,315.70
Grayburg Oil Co., San Antonio	298,071.76	413,125.83
Gulf Production Co., Houston	3,383,666.95	6,183,268.68
Gilliland Oil Co., Tulsa, Okla.	1,504.27	4,523.43
Goolsbee & Granam, Wichita Falls	60.12	142.50
T. H. Gray, Fort Worth	1,539.66	2,668.96
Gary Petroleum Co., Fort Worth	161.52	277.00
J. A. Gardner Lease Acct., Wichita Falls	1,500.32	3,989.01
Gilliam Logan Oil Co., Fort Worth	4,783.11	7,741.51
Galvez Oil Corp., Tulsa, Okla.	7,318.40	16,378.27
Gladys Belle Oil Co., Santa Anna	8,590.65	16,276.36
Gates Oil Co., Ardmore, Okla.	6,103.30	15,812.95
Gholson, Thompson, Barkley & Crotty, Ranger	7,260.02	17,941.08
Goolsbee & Goolsbee, Wichita Falls	290.47	697.56
Gilman & Conway Brothers, Cross Plains	19,426.37	51,460.46
Estate of R. G. Gillespie, Decd., Cisco	7,907.64	21,135.51
H. L. Graham, Wichita Falls	1,770.35	4,038.95
Golden West Oil Co., San Antonio	39,409.87	50,341.46
F. L. Godfrey, Enid, Okla.	146.20	349.65
Glenridge Oil Corp., St. Louis, Mo.	5,127.89	11,439.48
Hickory Oil & Gas Corp., Fort Worth	457.54	935.87
Hub Oil Co., Dallas	428.56	1,139.85
Humphrey & Merritt, Wichita Falls	2,439.67	6,064.79
J. H. Howell, Trustee, Electra	280.51	692.52
G. D. Hinson and R. V. Tidwell, Graham	3,155.56	7,856.38
G. D. Hinson and R. V. Tidwell, Graham	947.56	2,304.96
Howell & Easton, Electra	495.77	1,213.07
J. M. Hemby, Electra	869.38	2,216.59
Houston Oil Co. of Texas, Houston	29,358.78	44,545.83
H A S Oil Co., Wichita Falls	198.84	421.54
L. P. Hammond, Wichita Falls	187.12	480.37
Humble Oil & Refining Co., Houston	3,160,740.15	6,540,906.21
Hyde Production Co., Houston	10,200.08	16,829.12
Humphreys Corp., Houston	43,997.47	92,708.92
D. H. Houseman & Co., Dallas	32.99	76.76
Hockaday & Shaw, Wichita Falls	2,347.91	5,644.80
J. M. Hardie & Co., Sour Lake	919.41	1,449.41
W. T. Hoppes, Burkburnett	226.60	561.13
Helvetia Oil Co., San Antonio	16,756.23	30,484.95
E. R. Henderson, Trustee, Tulsa, Okla.	294.64	681.87
Harrell, McElreath & Cook, Wichita Falls	210.37	453.08
Harris Fisher Oil Co., Cisco	1,337.05	3,109.75
Hester, Hawkins & Ferguson, Wichita Falls	4,680.68	12,132.32
Howard Petroleum Corp., Tulsa, Okla.	2,207.23	4,458.01
Houghland Production Co., Wichita Falls	4,868.25	12,170.63
J. V. Henley and others, Electra	2,614.41	6,138.00
H-Y Oil Co., Inc., Fort Worth	14,854.82	35,239.33
Earl C. Hankamer & Co., Sour Lake	1,352.97	2,108.46
Joe M. Hardie, Sour Lake	491.16	747.71
Hobson & Voorhees, San Antonio	1,171.77	2,460.28
Hart-Mexia Syndicate, Fort Worth	878.62	2,140.66
Hart Oil Corp., Fort Worth	589.23	1,438.51
Hitchman & Howard, San Antonio	2,164.03	4,228.08
Hofmeier & Deegans, Fort Worth	954.00	2,150.32
Hanover Co., Inc., Wichita Falls	5,693.66	12,533.39
Hammon Thornberry & Heyser, Wichita Falls	552.42	1,408.21
Hammon, Garrett & Thornberry, Wichita Falls	8,309.45	21,279.14
Hammon, Heyser & Garrett, Wichita Falls	4,258.23	10,935.19
Hamilton & Wilson, Wichita Falls	5,002.21	12,520.43
Holmes & Riley, Amarillo	10,801.16	18,145.95
H. B. J. Oil & Gas Trust, Wichita Falls	1,710.66	4,250.97
Houston Production Co., Houston	26,946.53	41,603.82
Holbrook & Woods, Wichita Falls	9,610.88	24,481.25
J. E. Haggard, Wichita Falls	380.49	956.84
House & Lewis Oil Co., Cameron	1,168.86	2,606.55
Hammon Heyser Garrett & King, Wichita Falls	6,178.84	16,753.88
Herbert Oil Co. of Texas, Fort Worth	2,332.32	6,201.18
Hooser Oil Co. and John W. Hooser, Dallas	20,051.98	35,477.59
William K. Hughes, Trustee, St. Louis, Mo.	1,694.64	3,691.93
R. A. Harvey, Houston	3,945.00	5,289.17
Halmack Oil Co., Dallas	2,579.49	5,598.09
Hefley, McIntosh & Thomas, Cameron	856.02	1,912.32
H. L. Hamilton, San Antonio	7,115.00	16,593.48
J. K. Hughes Development Co., Mexia	352,756.67	780,976.68
Jake L. Hamon, Jr., Ardmore, Okla.	12,584.10	28,760.12
John E. Horn and E. S. Horn, Trustees, Kansas City, Mo.	681.89	1,642.47
Humphrey, Kruger and others, Wichita Falls	488.88	971.81
Homaokla Oil Co., Oklahoma City, Okla.	5,763.87	15,280.42
Holmes & Huey, Amarillo	23,338.87	39,676.08
Hickok Producing & Development Co., Toledo, Ohio	353.01	797.26
Southwestern Petroleum Co., Tulsa, Okla.	385.37	856.39
Harry Hines, Wichita Falls	187.10	480.33
Hobbs Oil Co., Tulsa, Okla.	5,441.06	13,047.76
George Hambleton, San Antonio	563.09	1,089.82
Hope Oil & Gas Co., Tulsa, Okla.	5,640.97	12,621.76
Hoffer Oil Corp., Fort Worth	3,665.63	8,810.28
J. K. Hughes Oil Co., Inc., Mexia	51,848.27	112,545.82
Idaho Oil Co., San Antonio	2,371.95	4,695.47
Independent Oil & Gas Co., Tulsa, Okla.	27,953.92	50,491.21
Interocean Oil Co., Tulsa, Okla.	21,877.33	51,641.94
Infield Petroleum Co., Austin	1,552.20	3,767.10
A. G. Ilseng, Fort Worth	423.22	1,023.69
Ilseng Production Co., Fort Worth	8,354.08	18,173.25
Johnson Brothers, San Antonio	15,386.08	34,086.99
Jennings Oil Co., Yoakum	8,153.94	19,834.68
J. A. Jones, Moran	751.82	1,864.20
Janellen Oil Co., Tulsa, Okla.	194.15	373.88
Jones Oil Co., Wichita Falls	4,615.89	11,724.36
Julia Oil Co., Sour Lake	4,304.08	6,654.10
Jackson Co., San Antonio	1,681.72	3,161.63
T. H. Jackson, Sipe Springs	349.56	757.18
J. E. Jones, Wichita Falls	1,962.15	5,158.92
J. S. Jackson, Trustee, Sour Lake	3,610.41	5,498.99
Jonray Oil Co., San Antonio	3,001.39	5,736.78
C. A. Jones, Strawn	1,950.74	4,335.81
Junior Oil Co., Cross Plains	2,858.26	7,973.60
Edwin M. Jones, El Dorado, Ark.	41,685.58	96,192.12
O. C. Johnson, Trustee, San Antonio	1,654.84	2,668.55
Judson Oil Co., Tulsa, Okla.	12,238.43	31,385.23
Junior Oil & Pipe Line Co., Corsicana	1,111.35	1,366.32
Charles M. Jameson, Moran	1,959.56	5,004.87
Keystone Production Co. of Texas, Fort Worth	5,824.00	14,698.00
Kuhlemeier-Kleiner Oil Co., Cisco	1,472.72	3,522.60
L. Kaufman, San Antonio	592.21	956.53
George Klenicke, Trustee, San Antonio	2,449.70	4,862.86
B. F. Kleinfelder, Breckenridge	1,127.23	2,501.64
A. A. Kurz, Somerset	388.57	759.89
Kent Middleton Refining Co., Corsicana	26,861.05	64,125.04
Kavanaugh Petroleum Co., Houston	1,390.72	3,261.09
G. C. Kent, Corsicana	66,496.44	153,954.99
Kemrow Producing Co., Wooster, Ohio	18,554.43	47,214.83
Keen & Woolf Oil Co., Shreveport, La.	20,302.53	30,471.25
P. S. Kendrick, Albany	502.29	1,077.92
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	5,551.76	13,297.42
King Petroleum Corp., Wichita Falls	2,008.75	5,026.35
Kimmell & Dillard, Wichita Falls	4,126.91	9,847.55
Kirby Petroleum Co., Houston	17,234.14	36,038.89
C. F. Kolp, Electra	17,548.15	41,877.67
E. F. Keith, Desdemona	1,898.28	4,517.88
Kemp & Underwood, Cameron	320.71	719.61
K. B. H. Syndicate, Electra	148.20	349.85
Kleiner Brothers, Cisco	351.64	803.74
Kay & Deats, Graham	358.26	791.43
Killam-Condren Oil Co., Laredo	1,471.39	1,802.16
O. W. Killam, Laredo	11,029.24	12,682.62
K. & S. Corp., Laredo	34,676.20	42,714.38
Kemp Munger Allen Oil Co., Wichita Falls	8,235.04	20,830.69
Kurz Oil Co., Somerset	692.00	1,179.22
Kirk & Brewer, Gorman	4,723.92	12,039.00
T. P. Kerr, Corsicana	355 31	778.88

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CEMENTING TIME:
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Fifty-eight minutes after the pumps were started on this job they were shut down. Thirty minutes more were consumed in making the change and landing plug. Total Time: 1 hour, 28 minutes.
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Name and Address—	Barrels	Value
Kewanee Oil & Gas Co., Titusville, Pa.	4,850.32	12,963.97
Keough Brothers, Cisco	5,152.82	14,221.75
King & Daniel, Wichita Falls	631.03	1,555.49
F. F. Knotts, Wichita Falls	756.01	1,927.73
King Royalty Co., Wichita Falls	12,380.60	31,088.41
Kate Bell Oil Co., Dallas	1,652.10	4,129.56
Frank Kell, Wichita Falls	297.16	760.58
Lake Shore Oil Co., Houston	1,571.63	2,431.36
J. V. Luckey, Rockdale	335.00	808.40
Lucey Petroleum Co., Dallas	9,909.85	21,596.72
Eugene B. Lawson, Nowata, Okla.	59,644.67	145,719.79
M. and Simon Lebow, Tulsa, Okla.	707.02	1,442.77
Homer Lee, Wichita Falls	3,221.71	8,639.78
R. Q. Lee, Cisco	219.99	531.48
Lytle Oil Association, Lytle	359.05	597.64
George Leonard, Somerset	237.08	328.60
Leonard Oil Co., Somerset	467.62	880.26
Lake-Graham Oil Co., Houston	None	None
F. M. Long, Humble	1,537.00	2,088.40
J. A. Lange, Wichita Falls	1,092.53	2,808.50
W. G. Lackey, Wichita Falls	4,628.65	11,644.20
Little Caddo Syndicate, Fort Worth	2,748.70	6,365.02
Lone Star Refining Co., Wichita Falls	1,205.61	2,556.77
Lay Oil Co., Cisco	2,594.14	5,947.50
W. S. Langford, Wichita Falls	2,133.87	5,218.90
Lake View Oil Co., Sour Lake	18,765.52	29,110.00
Lucky Six Oil & Gas Co., Bangs	453.00	906.00
Roy Long Oil Co., Navasota	2,115.39	5,195.52
Lowe, Delaney & Carter, De Leon	4,168.18	10,502.56
Lesh-Kilcrease & Co., Nocona	11,885.80	20,140.44
Lewis Oil Co., Pittsburgh, Pa.	1,494.58	3,219.32
Light Oil Co., Beaumont	322.37	494.84
Lone Star Gas Co., Dallas	23,041.05	57,024.96
Laclede Petroleum Co., Dallas	286.00	600.60
Sam Letwin, Breckenridge	1,045.56	2,409.68
Linedo Oil Co., Lincoln, Neb.	2,903.71	4,000.17
M. L. Lewis, Wichita Falls	1,001.40	2,478.15
Lowry Oil Corp., Wichita Falls	4,450.68	10,940.42
William Little, Breckenridge	485.38	1,024.51
Laredo Oil Co., Laredo	3,866.30	4,639.22
Thornton Lomax, Jr., Wichita Falls	27,912.72	64,953.89
C. H. Lebow, Tulsa, Okla.	983.57	2,540.46
Louisiana Oil Refining Corp., Shreveport, La.	27,919.52	45,529.34
P. F. Lesh, Wichita Falls	3,639.14	8,345.02
J. E. Lewis and others, Eastland	2,450.10	5,739.07
Len-Cook Oil Co., Electra	928.54	2,298.56
Lewis Oil Co. and National Refining Co., Pittsburgh, Pa.	40,119.18	87,935.18
Lain Oil Co., San Antonio	1,683.27	3,067.42
A. C. McDonald, Putnam	5,913.41	14,662.28
R. C. McCarter, Cisco	3,409.28	8,585.10
McClure & Sons, Iowa Park	1,744.25	4,270.50
Ed McCarthy, Galveston	209.11	480.01
McCarty Oil Co., Wichita Falls	81,225.60	199,578.62
E. R. McDaniel, Cisco	1,285.34	3,219.97
Macknold Co., San Antonio	297.34	526.34
J. P. McEwan, Trustee, Fort Worth	787.85	1,688.78
McClure & Sons, Iowa Park	1,333.48	3,445.68
McLester Oil Co., Breckenridge	7,347.00	16,530.75
McIlroy Oil Co., Inc., Amarillo	56,10.19	77,891.04
Mrs. L. W. McGlothlin, Burkburnett	842.36	1,783.86
W. W. McDonald and others, Dallas	5,000.41	11,927.27
McMan Oil & Gas Co., Tulsa, Okla.	95,329.74	195,233.90
W. C. McBride, Inc., St. Louis, Mo.	3,768.42	6,797.76
Jerome McLester, Cisco	1,224.92	2,682.57
McNalien & Griffin, Tulsa, Okla.	6,492.87	14,187.76
McCall & Lesh, Nocona, Texas	772.22	1,204.66
Madison Oil & Gas Co., Fort Worth	10,763.84	28,155.21
G. W. Mennis, Dallas	3,669.59	8,611.04
Murchison & Pigg, Wichita Falls	1,118.00	2,503.91
Minor Oil Co., Beaumont	8,842.84	13,706.40
Marland Oil Co. of Texas, Fort Worth	245,037.68	492,680.81
Mendenhall Oil Co., Cross Cut	5,915.60	15,409.70
Moutray & Son, Cisco	663.12	1,399.75
Midwest Exploration Co., Amarillo	19,765.02	46,548.96
Midwest & Gulf of Texas, Tulsa, Okla.	548.09	957.94
Medina Oil & Gas Association, San Antonio	332.08	615.26
Marnet Oil & Gas Co., Tulsa, Okla.	5,284.86	11,604.72
Mahlstedt Oil Co., Fort Worth	1,338.98	3,314.32
Maben Oil Corp., Wichita Falls	739.20	1,670.08
Minntex Oil Corp., Wichita Falls	883.42	2,119.59
Martin Brothers, Glen Ridge, N. J.	849.92	1,353.29
Martin & Harrison, Houston	3,531.34	5,529.69
Moutray Oil Co., Cisco	6,223.14	15,960.09
Miller & Miller, Putnam	3,208.92	7,792.88
Morrison & St. John, Cisco	2,719.83	6,470.01
Monarch Oil & Refining Co., Houston	22,559.84	34,164.73
F. L. Moore, Trustee, Tulsa, Okla.	4,678.64	11,188.91
Mary Elizabeth Oil Co., Dallas	13.07	30.11
L. T. Mann and Cosmopolitan Oil Co., Wichita Falls	1,392.09	3,290.02
Moore & Henderson, Tulsa, Okla.	691.71	1,544.09
Matador Oil & Gas Co., Quanah	341.1/5	853.12
Magee Brothers, Electra	1,821.80	4,669.14
Magee Brothers and Stipe, Electra	2,095.50	5,200.33
Meridian Petroleum Corp., Tulsa, Okla.	3,252.29	8,482.72
Meridian Petroleum Corp., W. A. Goforth, Receiver, Tulsa, Okla.	1,919.81	4,569.31
Magnolia Petroleum Co., Dallas	2,187,207.39	4,079,362.82
Mid-Kansas Oil & Gas Co., Findlay, Ohio	103,413.37	240,284.94
F. A. Mann, Graham	1,176.63	2,988.98
Montgomery, Rea-Montgomery, Sedwick	2,737.56	6,388.14
Milam Production Co., Inc., Rockdale	2,507.38	5,969.89
Maer & Staniforth, Wichita Falls	4,189.19	9,706.49
Moss & Keeling, Mexia	11,498.00	28,515.04
Maxson Co., Wichita Falls	3,767.18	9,262.12
Majestic Gasoline Co., Inc., Fort Worth	466.36	730.71
Milham Corp. of Texas, San Antonio	69,764.08	154,058.21
Mann & Forbes, Graham	3,400.40	7,996.40
Mohegan Oil Co., Mohegan Lake, N. Y.	300.76	601.52
N. A. Moore, Eastland	839.92	1,807.20
Mid-Continent Petroleum Corp., Tulsa, Okla.	23,507.47	55,532.55
Mills & Garitty, Corsicana	1,635.58	2,862.28
Clifford Mooers and others, Wichita Falls	9,191.54	21,682.75
Margay Oil Corp., Tulsa, Okla.	5,029.16	12,293.72
M. & V. Oil Co., Wichita Falls	11,074.24	27,889.11
J. D. Meredith, Moran	2,408.96	4,657.59
Mid Texas Petroleum Co., Oklahoma City, Okla.	49,192.13	109,709.91
A. D. Marth, Bartlesville, Okla.	541.11	1,114.15
Mook-Texas Oil Co., Fort Worth	7,163.36	17,095.06
Marchison & Fain Oil Co., Wichita Falls	121,268.45	306,934.52
Mues & MacDermott, Fort Worth	572.71	1,293.87
Mecom Oil Co., Houston	15,339.00	23,568.96
Moss Farm Oil Co., Wichita Falls	318.82	740.71
Marsalis Brothers, Humble	2,914.00	4,516.70
Muse & Robertson, Wichita Falls	38.29	91.13
Navarro Oil Co., Houston	81,708.72	158,070.53
Nine Hundred Oil Co., Burkburnett	1,423.41	3,365.40
T. C. McMurray, Receiver North Amer. Oil & Refg., Ft. Worth	4,183.90	9,729.82
National Petroleum & Refining Co., Wichita Falls	2,594.23	6,715.96
National Oil Co., San Antonio	1,211.34	2,056.40
J. A. Nellis and others, Putnam	259.00	547.80
Norba Oil Co., Wichita Falls	3,035.19	7,873.93
New Domain Oil & Gas Co., Inc., Pittsburgh, Pa.	7,923.14	15,826.85
Newblock Oil Co. of Texas, Bristow, Okla.	19,357.27	33,195.01
Noble Oil & Gas Co., Tulsa, Okla.	4,992.44	11,168.80
Noack Oil Co., Rockdale	2,692.74	6,556.31
Nueva Oil Co., Laredo	359.21	413.09
Nortex Drilling & Development Co., St. Louis, Mo.	422.36	959.07
Necessity Oil Corp., Dallas	1,886.25	4,017.61
Norman Oil Co., Wichita Falls	4,247.31	10,458.12
Number Nine Oil Corp., Tulsa, Okla.	3,292.50	8,118.55
Owenwood Oil Corp., Fort Worth	2,194.00	4,765.13
Oktaha Co., Tulsa, Okla.	1,140.41	2,801.00
John O'Neil, Wichita Falls	22,688.98	57,512.45
Old Ocean Oil Co., Kansas City, Mo.	5,818.68	9,095.03
Old Colony Oil Co., Dayton	3,700.00	5,742.88
Oil Investment Co., Wichita Falls	6,784.63	17,346.95
Ohio Somerset Oil Co., San Antonio	2,039.65	2,814.72
Thomas R. T. Orth, Wichita Falls	410.22	958.66
Owenwood Pool No. 3, Fort Worth	16,158.00	35,711.41

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Once you understand that VALDURA is made by the world's largest organization devoted exclusively to the manufacture of Asphalt paint, it is easy to understand why VALDURA is the logical choice of the most discriminating buyers—those who figure the most service per dollar. And this proved economy to you, has simply been brought about by long experience and vast production.

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Name and Address—	Barrels	Value
Oakwood Oil Syndicate, Fort Worth	28.87	54.28
Osage Development Co., Bartlesville, Okla.	2,166.48	2,650.61
Oriental Oil Co., Dallas	2,904.23	6,802.32
McNamara Oil Co., Beaumont	4,262.34	6,626.58
Owens Oil Co., Brownwood	4,285.62	7,168.12
H. A. O'Neil, Burkburnett	3,873.78	8,987.83
Ocean Oil & Refining Co., El Paso	1,702.07	2,513.69
Olney Oil & Refining Co., Olney	343.22	827.02
William P. Oldom, Iowa Park	1,668.90	4,157.58
Ozark Petroleum Co., San Antonio	1,289.20	2,457.64
Omilak Oil Co., Spokane, Wash.	454.00	830.82
W. B. Omahundro, Wichita Falls	1,387.68	3,467.03
Orange Petroleum Corp., Orange	64,419.18	99,488.23
Emile Offenbacher, Tulsa, Okla.	408.76	949.90
O'Donohoe-Gates Drilling Co., Wichita Falls	11,907.31	29,864.43
J. D. Overbey, Iowa Park	979.78	2,421.18
Primrose Oil Co., Sour Lake	1,070.05	1,678.24
Nannie S. Patton Sur., Canadian	1,907.00	2,488.44
Ed. V. Parsons, Fort Worth	274.99	684.67
Progressive Production Co., Kansas City, Mo.	5,169.71	13,178.34
Pattison-Lenix Oil Co., Amarillo	70,941.06	119,301.04
Pentagon Oil & Gas Co., Fort Worth	134.84	269.68
Planet Petroleum Co., Bartlesville, Okla.	45,414.65	113,332.26
Paraffine Oil Co., Houston	9,822.64	15,288.56
Phillips Oil Co., San Antonio	180.27	576.33
Powers Production Co., Houston	4,345.06	6,669.78
Pure Oil Co., Columbus, Ohio	1,211,348.30	2,660,016.16
Prescott-Phoenix Oil & Gas Co., Muskogee, Okla.	263.94	596.74
Prescott-Phoenix Oil & Gas Co., Wichita Falls	1,815.90	4,098.06
H. J. Thomas, Somerset	357.00	739.66
Freddie Palmer Oil Co., Rockdale	244.90	506.48
Pois & Kruger, Trustees, Wichita Falls	11,251.81	28,800.14
Pomona Mutual Oil Syndicate, Pomona, Calif.	3,946.66	10,166.61
W. A. Paddock and Charles C. McRae, Houston	2,538.88	3,946.92
Pattison-Lenix Oil Co., Amarillo	24,384.29	42,567.76
Parry Oil Co. of Texas, Inc., Fort Worth	1,510.90	3,535.82
Park, Fraser, & Scott, Wichita Falls	2,060.03	5,157.91
Prairie Oil & Gas Co., Independence, Kans.	371,291.46	912,266.53
Producers Supply & Tool Co., Marietta, Ohio	1,175.61	2,749.98
M. E. Pivoto, Sour Lake	5,680.94	8,919.45
Production Engineering Corp., Wichita Falls	191.32	457.33
Philip Brothers, Beaumont	2,582.07	4,622.21
Pennok Oil Corp., Tulsa, Okla.	35,060.13	70,010.38
Petroleum Producers Co., Wichita Falls	123,246.12	261,268.97
Petroleum Investment Co., Wichita Falls	5,235.37	13,266.42
Pace & Ward, Breckenridge	2,385.78	5,320.28
Phillips & Milam, Chelsea, Okla.	130.45	308.74
P. & M. Drilling Co. and others, Chelsea, Okla.	627.20	1,666.68
Phillips & Milam & P. & M. Drilling Co., Chelsea, Okla.	269.98	667.11
J. J. Perkins, Wichita Falls	4,644.61	11,924.51
Perkins & Cullum, Wichita Falls	99,520.18	252,875.22
Pitzer & West, Breckenridge	16,896.04	44,605.55
Price-Russell & Co., Ranger	8,744.20	22,489.60
Panhandle Refining Co., Wichita Falls	67,505.61	157,018.05
Robert R. Penn, Dallas	2,259.53	5,397.58
Charles Paggi & Co., Beaumont	5,066.37	7,921.95
Walter M. Priddy, Wichita Falls	13,372.30	32,762.13
Paggi Brothers Oil Co., Beaumont	10,686.75	16,510.63
Pender Producing Co., Denton	14,665.69	27,620.79
Phillips Petroleum Co., Bartlesville, Okla.	951,093.35	1,952,019.73
Pinto Oil Co., Mineral Wells	654.95	1,336.10
Pandem Oil Corp., Tulsa, Okla.	98,604.67	241,912.34
M. Pois, Trustee, Wichita Falls	459.67	1,105.22
Petroleum Development Co., New York, N. Y.	1,299.66	3,213.36
Quakins Petroleum Co., Ranger	8,398.00	21,599.37
Roamer Oil Co., Inc., Wichita Falls	1,393.77	3,238.23
E. C. Reed and others, Graham	736.96	1,709.99
Ruyle Farm & Oil Co., Wichita Falls	10,408.38	26,984.55
Rolyat Production Co., Houston	11,366.38	17,144.84
A. H. Rowan, Trustee, Corsicana	1,673.72	3,691.84
Arthur D. Robinson, Dallas	15,062.72	41,466.98
M. J. Reinhart, Trustee, Oklahoma City, Okla.	975.36	2,426.05
Rubsam & Hunter, Wichita Falls	3,560.68	9,082.85
M. D. Rowe, Wichita Falls	1,594.58	3,919.00
Rubsam & Hunter and others, Wichita Falls	65.00	164.45
Dwight M. Ross, Wichita Falls	1,866.32	4,740.45
M. C. and Summerfield G. Roberts, Dallas	491.49	522.72
Rountree, White & Simpson, Rockdale	6,058.68	14,317.32
Ramming & Saunders, Wichita Falls	5,356.13	13,373.13
Ramming, Staley & Ramming, Wichita Falls	1,576.68	3,358.52
Rountree & Simpson, Rockdale	304.81	706.19
Rountree, Ramsel & Kemp, Rockdale	1,408.49	3,260.61
R. W. Ramming, Wichita Falls	8.79	22.35
W. F. Ramming, Wichita Falls	48.44	116.15
Republic Production Co., Houston	732,935.54	1,168,643.47
Russel & Wilson, Wichita Falls	883.76	2,268.99
Riner & Bailey, Wichita Falls	56,480.34	137,281.57
Reiter-Foster Oil Corp., Tulsa, Okla.	4,799.97	11,521.66
Rydal Oil Corp., Coursen Matches, San Antonio	3,515.81	4,394.77
Rydal Oil Corp., San Antonio	13,862.84	17,328.57
Roeser & Pendleton, Inc., Fort Worth	270,644.70	644,296.65
Reclamation Co., Fort Worth	12,857.29	28,358.02
Rio Bravo Oil Co., Houston	318,175.04	558,297.20
Red River Oil Co., Tulsa, Okla.	15,381.75	36,972.26
Ross Amigos Oil Co., Laredo	8,256.43	10,062.02
Ross Segunda Oil Co., Laredo	1,464.31	1,841.00
Ray & Massie, Wichita Falls	42,296.84	107,461.56
Ray Featherston Oil Co., Inc., Wichita Falls	3,804.82	9,458.71
Rycade Oil Corp., Houston	116,616.60	181,782.50
Rentex Oil Co., San Antonio	7,854.26	14,987.12
J. A. Rockwell & Co., Warren, Pa.	3,647.82	8,419.62
Rocky River Oil Co., Wichita Falls	708.12	1,567.60
Russell-Sanderson Oil Co., No. 3, Fort Worth	1,382.57	3,277.73
Rex Petroleum Corp., Orange	26,577.75	43,322.90
Jacob Rosenberg, Tulsa, Okla.	239.31	533.39
Roxana Petroleum Corp., St. Louis, Mo.	306,220.85	635,961.39
Robert Oil Corp., Breckenridge	5,980.30	14,385.29
Rio Grande Petroleum Corp., Houston	8,120.37	9,769.91
Rhodes & Hughes, Breckenridge	13,649.11	30,847.66
Regna Oil Co., Saratoga	4,903.59	6,986.66
Ruthada Oil Co., Ardmore, Okla.	4,024.50	7,646.55
Root & Rhodes, Eastland	14,845.44	37,932.43
Root, Rhodes and others, Eastland	52,591.14	135,921.58
C. M. Root and others, Eastland	5,453.85	11,844.51
C. M. Root, Eastland	1,949.44	4,175.06
Rockdale Development Co., Inc., Rockdale	2,636.45	5,855.93
Ranger Gulf Corp., Tulsa, Okla.	6,408.65	14,287.58
J. B. Robinson, Attorney, Sour Lake	679.37	1,047.62
Ryan Consolidated Petroleum Corp., Bartlesville, Okla.	73,455.76	174,989.95
Somerset Crude Oil & Refining Co., Somerset	5,338.40	10,390.54
R. O. Stull, Wichita Falls	20.21	47.35
Staley, Wynne & Co., Wichita Falls	33,733.21	41,445.54
E. W. Skinner Oil Co., Saratoga	3,343.30	5,205.08
C. D. Speed, Corsicana	238.32	544.15
Shappell Oil Co., Wichita Falls	77,263.75	199,881.93
T. O. Shappell & Sons, Wichita Falls	740.32	1,821.18
Standard Oil Land & Leasing Co., Electra	305.15	753.13
Shertzer Brothers, Dewey, Okla.	16,618.61	36,656.95
John R. Saunders, Wichita Falls	48.44	116.15
J. A. Staley, Wichita Falls	4,847.32	11,794.84
J. I. Staley & Co., Wichita Falls	7,730.45	18,965.11
Sprawls, Harwell & Cook, Abilene	1,383.60	3,463.35
Staley Mashburn Oil Co., Wichita Falls	360.65	875.23
St. Louis Oil & Development Co., Wichita Falls	702.23	1,635.23
Summerfield Oil Co., Tulsa, Okla.	284.60	708.09
H. L. Sturm, Ardmore, Okla.	117.14	248.53
I. P. Sessions, Rockdale	608.97	1,389.46
South Stephens Oil Syndicate, Fort Worth	None	
R. E. Schoolfield, Wichita Falls	244.96	587.63
Sinclair Oil & Gas Co., Houston	119,276.63	188,043.34
Shackelford Oil Co., Putnam	3,344.60	7,762.47
Shaw & Rathke, Wichita Falls	42,614.97	107,616.14
Sigler Oil Co., Inc., Wichita Falls	2,412.27	4,982.99
C. W. Snider, Wichita Falls	2,805.09	7,650.24
Spring Creek Oil Co., Amarillo	6,100.44	10,127.11
St. Marys Oil & Gas Co., St. Marys, W. Va.	14,523.36	33,296.77
Strawn Petroleum Co., Denver, Colo.	6,959.64	17,369.83
J. P. Stoops, Ranger	419.33	966.44

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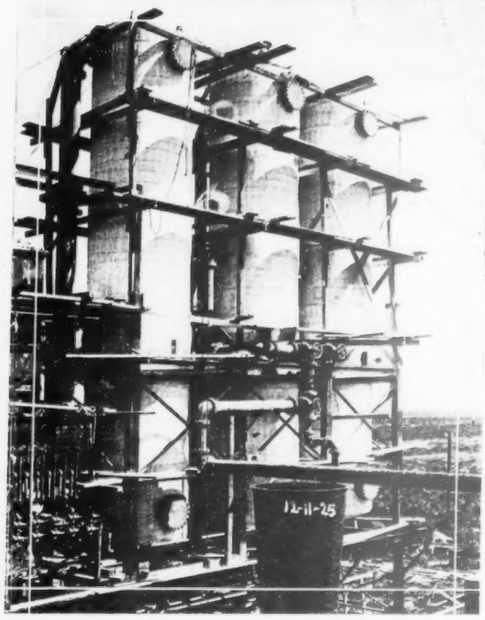
HEAT INSULATION



Separating Towers under construction in an Argentine gasoline refinery. The insulation is Sil-O-Cel Standard Brick, which will be covered with Sil-O-Cel hard-finish cement.

Wherever Heat Is Used

HEAT-TIGHT CONSTRUCTION in refinery and gasoline plant equipment is as sound engineering as oil-tight construction.

Heat leakage, in fact, amounts to much more than a waste of fuel. It means unequal temperature distribution—cold regions and avoidable re-fluxing.

It destroys weather-proofing preparations which may be applied to brick or steel surfaces. Invariably it reduces the capacity of equipment.

YET THE COST of effectively insulating against heat radiation actually amounts to nothing in the long run. The fuel savings thus effected alone more than repay every expenditure for insulation within the first year of its service. The other benefits are all "bonus."

Sil-O-Cel engineers have worked out practical methods for insulating every kind of heated equipment. Walls of firebrick or steel, doors, drums, shells—all can be made effectively heat-tight.

WRITE FOR BULLETIN C-11 which goes into detail on the insulation of refinery equipment.

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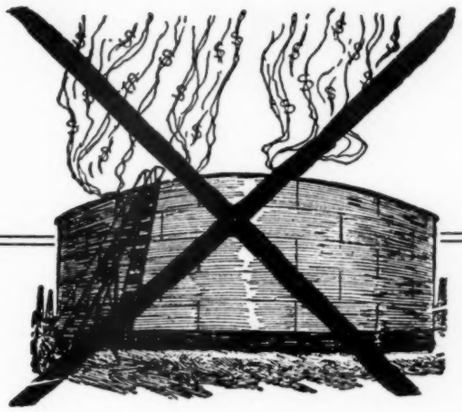
CELITE · PRODUCTS · CORPORATION
147 WINDSOR HOUSE WESTMINSTER
LONDON · · · ENGLAND

Name and Address—	Barrels	Value
Archie Shaw, Burkett	2,662.10	5,566.20
Shaw-Fox & Adams, Burkett	3,364.23	5,773.41
South Vernon Oil Co., Vernon	1,074.66	2,450.22
J. M. Shale and H. J. Whittaker, Sweetwater	301.76	756.08
Strauss-Allen Oil Co., Wichita Falls	8,903.52	22,666.95
Superior Oil Co., Lexington, Ky.	2,500.44	5,990.15
A. Sirovich and Mrs. Freeman M. Thomas, Houston	1,784.20	2,733.41
Southern Petroleum Co., Houston	4,111.26	6,370.00
Sheffield Teleschaw & Conkling, Beaumont	780.00	1,219.33
Stroube & Stroube, Corsicana	114,950.56	268,815.43
Supreme Oil Co., Orange	2,293.30	3,581.06
Schaffner-Wilson and others, Coleman	11,827.72	30,417.41
Ben F. Schulz and M. Pois, Wichita Falls	1,306.62	3,237.39
E. G. Senter, Jr., Dallas	411.06	925.16
Simms Oil Co., Dallas	327,219.32	751,852.84
Sunny Jim Oil Co., Tulsa, Okla.	58,221.95	98,919.10
Schlicher Oil Co., Beaumont	1,077.97	1,633.11
George Beggs Strip, Fort Worth	2,835.47	7,448.11
Star Drilling Co., Wichita Falls	4,112.49	10,521.78
Stephens Oil Co., Sour Lake	753.01	1,155.62
Sedwick Oil Co., Tulsa, Okla.	6,981.92	15,468.22
Sinclair Oil & Gas Co., Tulsa, Okla.	58,763.59	141,032.23
Sindorf & Sindorf, Caddo	1,699.68	3,726.95
W. W. Silk, Wichita Falls	408.15	1,029.56
Silk, Bullington & Clark, Wichita Falls	6,643.12	11,957.90
Silurian Oil Co., St. Louis, Mo.	3,917.16	9,664.86
M. E. Sommer, Moran	620.96	1,410.17
E. L. Smith Oil Co., Inc., Mexia	95,358.03	240,741.45
Sam & Morris Sitrin, Tulsa, Okla.	427.05	957.88
Sun Oil Co., Dallas	361,775.94	718,040.59
E. C. Stovall, Graham	4,191.00	9,744.00
States Oil Corp., Eastland	50,857.28	127,213.07
Somerset Oil Co., Eastland	104.6/10	175.71
Salado Oil Co., San Antonio	1,673.90	3,378.20
Stidham & Thrasher, Electra	52.17	118.96
Snowden & McSweeney Co., New York, N. Y.	57,419.73	142,883.22
W. A. Scarborough, Burkburnett	3,472.74	8,468.48
Shamrock Petroleum Co., Wichita Falls	2,624.52	5,423.83
T. B. Slick, Oklahoma City, Okla.	21,556.48	56,434.90
Saratoga Oil Co., Wichita Falls	2,074.58	5,326.16
Skelly Oil Co., Tulsa, Okla.	88,597.16	180,276.51
Seybert Brothers, Mooringsport, La.	2,194.47	5,108.56
Seaboard Oil & Gas Co. of Texas, Wichita Falls	28,028.57	67,909.82
H. L. Stack, Cisco	3,957.26	9,480.54
Swensdale Oil Co., Caddo	16,888.89	37,916.00
Tucker & Fox, Dallas	8,628.31	19,420.66
R. V. Tidwell, Trustee, Graham	903.76	2,204.99
Mack Thomas, Wichita Falls	116.00	255.20
Taylor-Sibley Syndicate, Dallas	1,949.44	4,846.30
Texota Petroleum Co., Electra	602.30	1,608.69
Trimount Petroleum Co., Shreveport, La.	9,384.70	21,887.76
Transcontinental Oil Co., Tulsa, Okla.	8,102.07	18,773.76
Texas Oil Corp., Dallas	231325	499.90
Texas Plains Syndicate, Chicago, Ill.	625.25	1,393.72
Triangle Oil Co., Wichita Falls	1,054.72	2,723.24
R. V. Tidwell, Trustee, Graham	951.28	2,252.53
R. V. Tidwell, Trustee, Graham	1,121.88	2,555.10
R. V. Tidwell, Trustee, Graham	5,157.70	12,593.82
Twin Six Oil Co., Inc., Amarillo	3,376.98	8,658.19
Other Cos., Texas Pacific Coal & Oil Co., Thurber	137,335.91	323,145.37
Texas Pacific Coal & Oil Co., Thurber	204,152.96	496,921.87
Johnnie Tolbert Oil Co., Midlothian	3,440.00	8,359.50
Texas Petroleum Development Co., Cameron	10,568.24	25,698.50
Texas Development Co. and others, Eastland	431.12	979.52
Oscar Talley, Trustee, Burkburnett	260.00	651.20
C. A. Tucker and others, Dallas	4,798.21	10,408.20
L. B. Tannehill, Albany	7,123.00	15,213.08
Texas Southern Oil & Development Co., San Antonio	2,155.94	4,303.06
J. W. & D. R. Trippiehorn, Fort Worth	2,674.67	6,151.11
Theis Oil Co., Sour Lake	4,509.59	6,980.91
Texon Oil & Land Co. of Texas, Big Lake	695.64	1,512.87
Trans-Bay Oil Co., Galveston	91.00	168.35
Triangle Oil & Gas Co., Rockdale	1,926.06	4,728.17
Texas Fidelity Oil Corp., Louisville, Ky.	14,433.69	37,359.30
L. J. Tillery Oil Co., Inc., Beaumont	5,216.11	8,072.51
W. T. Timblin, Wichita Falls	174.28	457.97
Texas Consolidated Oil Co., San Francisco, Calif.	13,917.94	34,585.72
Texo Oil Co., Laredo	712.32	819.17
Texas Exploration Co., Houston	8,587.23	12,794.97
Thompson & McKinnis, Ranger	1,207.92	3,200.10
Travis Oil Co., Fort Worth	585.39	1,331.98
Texas Electra Co., Columbus, Ohio	435.32	1,131.83
Tucker & Langford, Wichita Falls	74,301.80	184,301.80
L. Teatsworth and others, Eastland	9,528.00	23,755.84
Texas Utility Oil Co., Dallas	17,005.47	42,618.88
Trinity Production Co., Wichita Falls	782.99	1,921.26
Travelers Oil Co., Amarillo	29,525.85	50,685.19
Two Republics Oil & Gas Co., Laredo	10,986.46	13,486.14
The Texas Company, Houston	2,351,025.04	4,560,044.42
Thompson Oil Corp., Ranger	4,750.24	11,954.29
F. E. Tegler, San Antonio	136.00	264.60
J. L. Thompson, Trustee, Ranger	5,540.22	14,437.78
W. H. Thaxton, Estate, Austin	216.50	441.66
E. M. Thomasson & Co., Inc., Denver, Colo.	3,586.31	9,602.51
Texokan Producing Co., Coffeyville, Kans.	5,545.66	13,461.63
Thompson & Cocke, Sherman	1,355.78	3,381.23
Tidal Osage Oil Co., Tulsa, Okla.	5,356.74	11,938.62
Tidal Oil Co., Tulsa, Okla.	129,347.61	289,530.68
Thell Oil Co., Beaumont	9,468.70	20,826.62
Tyson Oil Co., Beaumont	1,041.50	1,593.50
G. A. Tucker, Dallas	1,611.88	3,751.49
Underwood Drilling Co., Wichita Falls	2,031.37	4,755.10
Underwood Drilling Co., Wichita Falls	3,412.58	8,872.70
United North & South Oil Co., Luling	818,885.46	1,171,742.15
United Oil & Fuel Co., Philadelphia, Pa.	1,570.46	2,447.38
Upham Gas Co. of Texas, Mineral Wells	1,698.28	4,927.40
Unity Oil Co., Beaumont	19,566.94	31,727.00
United North and South Oil Co., Luling	15,254.25	19,830.51
Union Production Co., Inc., Rockdale	1,887.57	4,684.96
United Production Co., Inc., Wichita Falls	2,369.60	6,018.78
U. S. Tex Oil Corp., Dallas	6,820.88	14,934.59
Vacuum Oil Co., Houston	42,162.87	66,024.45
Virginia Oil Association, Fort Worth	4,237.76	11,033.06
Val Verde Oil Co., Del Rio	2,851.00	5,463.75
Van Cleave, Trustee, Wichita Falls	1,694.54	4,217.79
Valley Oil Co., Wichita Falls	2,818.60	6,764.64
M. B. Watson, Fort Worth	1,700.00	2,550.00
Woods & Bennett, Humble	6,130.93	9,502.94
Webb Oil Co., Humble	5,576.58	8,632.46
R. M. Waggoner Special, Wichita Falls	3,534.02	9,152.07
Annie L. Witcher, Guardian, Wichita Falls	3,384.67	9,206.68
Witcher & Michel, Wichita Falls	395.28	1,033.72
Weed-Gayle Oil Co., Beaumont	11,238.38	17,343.81
Winnipeg Oil Co., Wichita Falls	23,690.32	53,870.63
Wilson Drilling Co., Wichita Falls	6,101.26	14,746.97
Wilson Drilling Co., Wichita Falls	2,497.26	6,534.91
Worth Oil Co., Wichita Falls	163.00	344.93
S. Weisman, McKinney	52.00	134.60
M. E. Wakefield and others, Cross Plains	497.64	790.77
Howard Weber, Bartlesville, Okla.	2,203.62	5,020.65
Howard Weber, Bartlesville, Okla.	2,513.46	5,942.94
Howard Weber, Bartlesville, Okla.	647.26	1,444.25
H. C. Weber, Bartlesville, Okla.	1,314.13	3,080.46
Howard Weber, Bartlesville, Okla.	1,124.81	2,502.40
Howard Weber, Trustee, Bartlesville	515.32	1,226.99
Wilson Drilling Co., Wichita Falls	3,042.50	7,804.75
P. J. White and others, Wichita Falls	15,808.30	41,869.18
West Production Co., Houston	8,060.69	12,252.24
Lee Wilson, Wichita Falls	428.40	992.98
Lee Wilson (Annie Bearden Lease), Wichita Falls	12,348.62	29,526.65
J. G. Wiler et al, Cross Plains	5,879.22	15,248.56
Charles William Wallace and Wife, Wichita Falls	46,846.03	116,233.62
Wheelock & Collins, Corsicana	68,939.62	158,936.36
Mrs. Bessie M. West, Houston	2,109.00	5,342.50
H. F. Wilcox Oil & Gas Co., Tulsa, Okla.	94,791.16	176,555.28
Wyatt Oil Co., Sour Lake	436.50	646.75
Burt Williams, Wichita Falls	816.23	1,826.94
Weaver & Pois, Wichita Falls	13,614.28	32,678.60



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*—to store your oil in tanks not properly protected against evaporation**

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Breather Valves
Cable Sheave Brackets
Flame Arrestors
Tank Gauges
Gauge and Thief Hatches
Gauge Wells
Liquid Level Indicators
Manhole Covers
Nozzles
Superla Tilting Vents
Swing Joints
Vent Units
Winches

On the Stills

Automatic Tar Plugs
Safety Valves
Look Boxes

**Scores of companies have found out what it was costing them and as a result have Oceco equipped.*

THE gasoline vapors escaping from *unprotected* tank openings — are your dollars — invisible dollars — evaporating in thin air.

If you could only see them you wouldn't stand for their loss any more than you'd tolerate a leaking tank.

Evaporation is insidious—you cannot see it. You know it only by the toll it exacts from you. Yet most of it is preventable—by installing gas-tight, properly designed fittings.

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W. K. Henderson Co., Shreveport, La.
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Arthur Dooley, Box 552, Beaumont, Tex.

OIL TANK OCECO EQUIPMENT

SAVES EVAPORATION AND PREVENTS FIRE

Name and Address—	Barrels	Value
Wilson-Broach Co., Beaumont	17,479.64	27,196.78
Wichita Production Co., Wichita Falls	2,680.34	24,720.04
Western Oil Corp. of Texas, Wichita Falls	4,802.94	28,172.92
Western Oil Sales Corp., Wichita Falls	1,796.71	4,720.70
Wilson Drilling Co., Wichita Falls	6,964.74	17,052.95
Wise & Jackson, Sapulpa, Okla.	4,486.73	11,156.58
Waggoner National Bank, Vernon	2,645.05	6,079.05
Waggoner Refining Co., Inc., Electra	25,084.84	54,303.96
Westervelt-Noble, Oklahoma City, Okla.	5,259.06	12,689.61
C. A. Ward, Cisco	1,750.84	4,277.88
Wampem Oil Corp., Dallas	6,023.30	14,877.75
Wayne-Hammon Special, Wichita Falls	2,668.28	6,571.70
Westex Oil Co., Amarillo	121,710.74	208,937.61
H. J. Wood, Trustee, Cisco	473.76	1,011.61
Wittmer Property, Trustees, Pittsburgh, Pa.	1,762.30	3,313.12
Weldon Oil Co., Saratoga	10,072.45	13,028.78
J. W. Williams and others, Cisco	5,966.40	14,050.45
Why Not Oil Co., Inc., Mexia	20,558.43	50,569.82
Wichtex Oil Co. and Dixie Oil Co., Inc., Wichita Falls	1,448.51	3,464.83
Wood-Benton-Lesh & McCall, Nocona	47,776.67	81,238.65
Willand Petroleum Co., Tulsa, Okla.	59.86	156.88
J. S. Weller, Oil City, La.	343.74	802.42
James H. White, Wichita Falls	1,406.40	3,198.21
Whaley Mineral & Realty, Trustee, Fort Worth	5,349.24	12,826.19
Wilson, King and others, Wichita Falls	20.21	47.34
Warren-Hayes Oil Corp., Cisco	3,976.54	9,554.44
Wichita Petroleum Co., Tulsa, Okla.	4,293.02	9,926.67
Mrs. Fay R. Ward, Dallas	136.97	280.08
J. H. West, Cisco	3,598.66	10,189.49
White Eagle Oil & Refining Co., Kansas City, Mo.	90,105.00	157,063.00
Westheimer & Daube, Ardmore, Okla.	1,745.56	3,820.05
John H. Williams, Dallas	6,314.48	15,302.00
F. H. Wickett, Shreveport, La.	3,015.78	3,688.44
Witherspoon Oil Co., San Antonio	92,298.60	206,930.01
B. F. Whitehill, Tulsa, Okla.	5,940.15	15,283.75
Hall Walker, Ranger	2,248.36	5,037.63
B. S. Walker, Breckenridge	1,539.20	3,514.61
C. N. White, San Antonio	21,962.34	50,085.91
Zadie Belle Oil Co., Fort Worth	714.62	1,854.64
Yount Lee Oil Co., Beaumont	438,191.55	719,501.60
Total	31,072,381.09	$62,348,393.57

CALIFORNIA OIL FIELD OPERATIONS FOR JULY, 1926

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for July amounted to 18,743,199 bbls., an average of 604,619 bbls. per day. This is a decrease of 4,362 bbls. per day under June production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 2,512,588 bbls. The total stocks at the end of the month were 148,001,772 bbls. The total stock decrease for 1926, up to July 31, was 9,314,537 bbls. Comparative figures as of July 31, 1926, June 30, 1926, and July 31, 1925, are shown in detail.

Sixty-eight wells were completed during the month with an initial daily production of 27,582 bbls., compared with 67 wells completed during June with an initial production of 30,346 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons.)

District—	Barrels per Month	Daily Average July, 1926	Daily Average June, 1926	Daily Average July, 1925
Kern River	350,212	11,297	11,719	17,709
McKittrick	165,290	5,332	5,358	5,742
Midway-Sunset	2,912,879	93,964	93,889	99,261
Elk Hills	1,052,388	33,948	35,152	28,475
Lost Hills-Belridge	142,761	4,605	4,715	4,644
Coalinga	617,144	19,908	20,510	23,231
Wheeler Ridge	33,003	1,065	1,062	861
Watsonville	1,783	58	57	57
Santa Maria	148,352	4,786	5,151	7,514
Summerland	3,988	129	129	125
Ventura Avenue	1,323,790	43,025	40,248	15,281
Ventura-Newhall	186,217	6,007	6,372	6,136
Los Angeles-Salt Lake	57,096	1,842	1,799	1,904
Whittier	63,189	1,038	2,068	2,131
Fullerton	528,232	17,040	17,150	11,221
Coyote	514,804	16,607	16,722	20,152
Santa Fe Springs	1,515,897	48,900	48,491	53,249
Montebello	577,442	18,498	18,420	18,690
Richfield	446,039	14,388	14,070	11,624
Huntington Beach	1,355,707	43,732	43,397	42,994
Long Beach	3,290,433	106,143	106,433	103,288
Torrance	874,445	28,208	29,102	34,865
Dominguez	649,476	20,951	20,536	30,312
Rosecrans	484,152	15,618	16,868	19,711
Inglewood	1,441,626	46,504	49,479	99,990
Newport	854	28	83	152
Total	18,743,199	604,619	608,981	658,421
June	18,269,417	608,981		
Decrease	*473,782	4,362		

*Increase.

STOCKS

	July 31, 1926	June 30, 1926	July Stock Decreases	July 31, 1925
Heavy crude, heavier than 20 degrees A.P.I., including all grades of fuel	88,362,629	89,074,507	711,878	72,298,732
Refinable crude, 20 degrees A.P.I. and lighter	33,548,115	35,340,238	1,792,123	44,198,326
Gasoline	10,450,418	10,766,007	315,589	9,751,143
Naphtha distillates	4,955,313	5,213,043	257,730	6,188,559
All other stocks	10,685,297	10,120,565	*564,732	9,862,459
Total all stocks	148,001,772	150,514,360	2,612,588	142,299,219

*Increase.

DEVELOPMENT

District—	New Rigs Up	Active Drill'g	Comp.	Daily Initial Output	Active Prod'g	Abd. Wells Drlrs.	Abd. Wells Prdrs.
Kern River	15	11	1	50	1,375	...	...
McKittrick	2	5	1	18	305	1	...
Midway-Sunset	14	46	17	3,524	2,961	1	3
Elk Hills	...	...	4	1,737	249	1	...
Lost Hills-Belridge	...	3	...	.....	309	...	...
Coalinga	...	4	1	42	971	...	...
Wheeler Ridge	1	1	1	90	25	...	...
Watsonville	...	...	...	.....	6	...	...
Santa Maria	...	6	...	.....	231	...	1
Summerland	...	...	...	.....	135	...	...
Ventura Avenue	1	27	3	7,827	65	...	...
Ventura-Newhall	...	33	...	.....	522	2	...
Los Angeles-Salt Lake	...	...	...	.....	376	...	...
Whittier	...	6	1	50	190	...	...
Fullerton	...	17	2	2,136	431	...	...
Coyote	1	1	...	.....	214	...	...
Santa Fe Springs	4	1	1	175	349	1	5
Montebello	4	7	1	232	178	...	...
Richfield	...	14	4	1,580	190	...	...
Huntington Beach	6	12	5	1,802	355	1	...
Long Beach	6	33	16	4,777	780	1	1
Torrance	4	7	3	625	646	...	...
Dominguez	...	2	2	917	71	...	...
Rosecrans	...	7	1	850	132	...	...
Inglewood	2	2	3	1,120	199	2	...
Newport	...	...	1	30	7	...	...
Miscellaneous drilling	13	122	...	.....	.....	4	...
July	73	367	68	27,582	11,273	14	10
June	48	364	67	30,346	11,305	13	7
Increase	25	3	1	*2,764	*32	1	3
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	605	67	43,700	9,410	17	
Average for year 1921	90	536	57	15,631	9,425	14	

*Decrease.

Carbondale Chilling Machines have been in service for over 35 years. Their design affords a continuous operation delivering a uniform homogeneous distillate ready for pressing. The crystalline condition renders easy separation of soft wax from the pressed oil.

Carbondale filter press, cylinder end, showing press charged.

Across America —non-stop

Lieut. Leigh Wade of around-the-world flight fame recently drove a Packard Straight Eight a distance of 3,695 miles across the continent, without draining the crank case. Pennzoil lubrication was selected because its value as a dependable lubricant has been proven repeatedly.

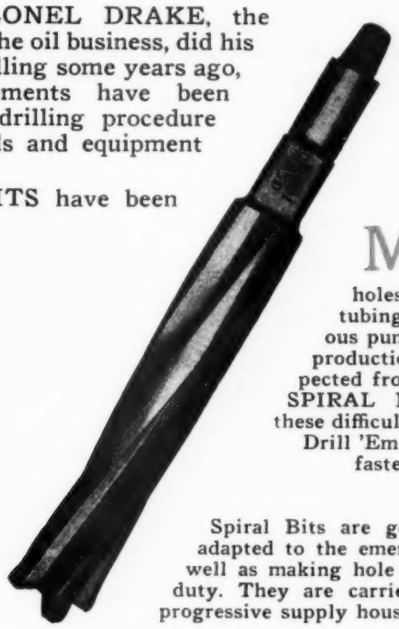
Carbondale Refrigerating Equipment was used in the process of refining Pennzoil. In bringing to perfection the inherent lubricating qualities of the crude oil and assuring an oil which never deviates in quality a dependable refrigerating system is essential.

For almost four decades Carbondale Refrigeration has given dependable service to refiners. Plants in operation for more than 30 years are still giving satisfactory service.

CARBONDALE MACHINE COMPANY
Carbondale, Pa.
Branches in Principal Cities

Carbondale Refrigeration
CARMACO *for Refiners*

SINCE COLONEL DRAKE, the Pioneer of the oil business, did his small job of drilling some years ago, many improvements have been made in well drilling procedure both in methods and equipment employed.
DRILLING BITS have been improved too—



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Patented
Other Patents Pending

MR. OPERATOR: Did you ever consider the advantage of straight holes? Wire cut pipe, worn tubing and sucker rods, numerous pumping troubles and loss of production may reasonably be expected from crooked holes.
SPIRAL BITS are proof against these difficulties.
Drill 'Em
faster,
easier
and *Straight*.
Spiral Bits are general service tools well adapted to the emergencies of production as well as making hole day after day in regular duty. They are carried in stock and sold by progressive supply houses everywhere.

DRILLING TOOLS DESIGNED RIGHT WILL DRILL MORE

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TOOLS and MACHINERY

LEIDECKER Standard Gauge Cock

LEIDECKER
No. 20 Drilling Machine

LEIDECKER
Steam Drilling Engine

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Bartlesville, Okla. Basin, Wyoming Casper, Wyoming

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Especially for Difficult Jobs

WHERE working conditions have been found particularly difficult, the quality of "NATIONAL" Pipe has been most appreciated by men in the field.

Many troublesome features are encountered in drilling and in casing wells where the quality of the tubular material can shoulder the extra burden if it is made with a sufficient "factor of safety." This is one of the important advantages in using "NATIONAL" material. You can be sure that this product will measure up to your expectations because it is made to meet the unusual and difficult jobs.

It is particularly strong—sufficiently ductile—threads are clean and strong—it has high resistance to collapsing pressures—and is durable under corrosive conditions. These are some of the qualities which have given "NATIONAL" Pipe the "first call" with oil and gas men who have difficult problems to overcome.

Remember! There is a "NATIONAL" Product for Every Oil and Gas Purpose.

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

GENERAL SALES OFFICES: FRICK BUILDING

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Atlanta Boston Chicago Denver Detroit New Orleans New York Salt Lake City Philadelphia Pittsburgh St. Louis St. Paul

Pacific Coast Representatives: U. S. Steel Products Co. San Francisco Los Angeles Portland Seattle

Export Representatives: U. S. Steel Products Co. New York City

REPORTS OF OPERATIONS IN NORTH TEXAS FIELDS

(Continued from Page 42)

990 feet south and 330 feet east NW cor. SE, Section 21, Block Y; No. 26, 990 feet south and 330 feet west NE cor. SW, Section 21, Block Y. Skelly Oil Co.'s No. 1 J. E. Pritchard, C SW 20 acres, southwest 80 acres, Section 3, Block B-4, D. & S. E. Survey.

Gray County

Archer Blake's No. 1 Furneaux Brothers, 660 feet north SW cor. and located on west line, Section 11, Block B-2, H. & G. N. Survey. McMann Oil & Gas Co.'s No. 7 Worley & Reynolds, 990 feet north and 330 feet west SE cor. W half NE, Section 83, Block 3, I. & G. N. Survey.

Wheeler County

Gibson Oil Co.'s No. 4 H. C. Phillips, 330 feet north and west SE cor. Section 41, Block 24, H. & G. N. Survey. Laycock and others' No. 1 Laycock and others, 330 feet north and west SE cor. SE NE, Section 10, Block 24, H.; & G. N. Survey. J. J. Rock's No. 1 T. C. Jones, 330 feet south and west NE cor. SW NE, Section 1, Block 24, H. & G. N. Survey. The Texas Oil Co.'s No. 1 Noah Smith, 330 feet south and 990 feet east NW cor. NE, Section 40, Block 24, H. & G. N. Survey. Upham Gas Co.'s No. 1 R. S. Alexander, 660 feet north and 330 feet west SE cor. east 20 acres, southeast 40 acres SW, Section 92, Block 17, H. & G. N. Survey. Vaughn and others' No. 2 O'Gorman Brothers, center south 20 acres, southeast 40 acres SE, Section 77, Block 17, H. & G. N. Survey.

Wichita County

C. F. Kolp's No. 1 W. T. Waggoner-AA, 175 feet south and west NE cor. south 40 acres, east 160 acres, Section 13, H. & T. B. Survey, A-137. Magnolia Petroleum Co.'s No. 1 S. S. Fassett, 150 feet north and east SW cor. north 60 acres, east 120 acres, D. L. & C. Survey, A-596; No. 14 W. B. Honaker, 800 feet north and 700 feet west SE cor. W. B. Honaker's 100-acre tract out of Richard Meade Survey, A-185; No. 72 S. E. Honaker, 1,250 feet north and 450 feet east SW cor. Section 2, S. P. R. R. Survey, A-674; No. 1 Ramming-Hodge, 150 feet south and 950 feet east NW cor. Richard Ramming's 200-acre tract, Section 3, T. T. R. R. Survey. George Pace's No. 6 A. B. Edgerly-A, 150 feet north and east SW cor. Lot 44, Section 1, S. A. & M. G. Survey, A-276. Perkins-Cullum & Stump's No. 4 W. H. Chilson, 150 feet south and west NE cor. Section 11, League 4, Denton County school land, A-417; No. 5, 450 feet south and 150 feet west of NE cor. Section 11, League 4, Denton County school land, A-417. Shappell Oil Co.'s No. 9 S. H. McCarty-A, 700 feet north of south line, 300 feet west of east line of their 40-acre lease "A", out of W. R. Eaves Survey, A-447. The Texas Company's No. 310 W. T. Waggoner, 2,667 feet south and 109 feet west SE cor. Section 19, G. C. & S. F. Survey, A-359, and located in Section 20, G. C. & S. F. Survey, A-606. Trinity Production Co.'s No. 17 T. L. Burnett, 150 feet north and 200 feet east SW cor. 40-acre lease, Section 7, H. T. & B. Survey, A-137; No. 18, 150 feet north and east SW cor. 40-acre lease, Section 7, H. T. & B. Survey, A-137.

Wilbarger County

Humble Oil & Refining Co.'s No. 7 W. T. Waggoner-G, 473 feet north and 175 feet west SE cor. Section 46, Block 4, H. & T. C. Survey; No. 7 W. T. Waggoner-I, 450 feet north and 495 feet east SW cor. Section 49, Block 4, H. & T. C. Survey; No. 8, 450 feet north and 160 feet east SW cor. Section 47, Block 4, H. & T. C. Survey; No. 17 W. T. Waggoner-M, 178 feet north and 500 feet west SE cor. 40-acre lease "M", Section 42, Block 4, H. & T. C. Survey.

Archer County

Bridwell & Heydrick's No. 1 G. T. Netherton, 150 feet north and west SE cor. SE NE, Section 1, S. P. R. R. Survey, A-411. Marland Oil Co. and Bass & Dillard's No. 1 J. J. Perkins and others, 150 feet north and east SW cor. W half NE, Section 27, League 3, Denton County school land, A-117. Simms Oil Co.'s No. 6 Mrs. J. H. Turbeville-A, 150 feet north and 1,220 feet west SE cor. 80-acre lease, Robert Carson Survey, No. 172, A-106. Gates and others' No. 8 W. H. Thomas, 1,650 feet south and 450 feet west NE cor. south 80 acres, Lot 6, North Subdivision, Nathan Thomas Survey, A-454. Kell & Kruger's No. 5 R. O. Prideaux, 150 feet north and 750 feet west SE cor. north 113 acres, J. I. Hand Survey, A-181. Kimmell & Dillard's No. 1 J. R. Parkey, 150 feet north and east SW cor. east 80 acres, Section 41, J. R. Parkey Subdivision, Dallas County school land, A-113. Magnolia Petroleum Co.'s No. 2 L. L. Hudson, 150 feet south and 1,600 feet west NE cor. south 93.7 acres, Section 80, Club Ranch Subdivision; No. 24 A. J. Lowe, 150 feet north and 750 feet west SE cor. Lot 2, Crawford Subdivision, I. Holman Survey, A-162. Marland Oil Co.'s No. 3 W. H. Thomas-B, 150 feet north and east SW cor. north 20 acres, Lot 6, North Subdivision, Nathan Thomas Survey, A-454. Murchison & Fain's No. 1 M. A. Holley, 150 feet south and east NW cor. north 20.12 acres, E half, Section 24, Club Ranch Subdivision. Pandem Oil Corp.'s No. 7 W. H. Thomas, 1,050 feet south and 150 feet east NW cor. south 50 acres, Lot 5, North Subdivision, Nathan Thomas Survey, A-454. Roxana Petroleum Corp.'s No. 4 Abercrombie & Taylor, 1,070 feet south and 450 feet east NW cor. 90-acre lease, out of Section 2, S. P. R. R. Survey, A-1,281.

Clay County

Lone Star Gas Co.'s No. 23 E. L. Holloway, 1,080 feet south and 1,208 feet east NE cor. Section 29, Parker County school land, A-347.

Montague County

Farlan Oil Co.'s No. 2 J. W. Maddox, 607 feet south and 111 feet east NW cor. west 14 acres, Lot 5, C. W. Thompson Survey, A-741. Lesh, McCall & Kilcrease's No. 6 R. Hinds, 400 feet south and 150 feet west NE cor. 20-acre lease, J. J. Wall Survey, A-1,199. Pure Oil Co.'s No. 1 J. W. Rowland and others, 150 feet north and west SE cor. east 40 acres, west 140 acres, J. W. Roland's 245-acre tract, out of E. Votaw Survey, A-827;; No. 2, 150 feet north and east SW cor. east 40 acres, west 140 acres, J. W. Rowland and others' 245-acre tract, E. Votaw Survey, A-827. The Texas Company's No. 1 T. B. Cunningham, 200 feet north and east SW cor. east 40 acres, T. B. Cunningham's 78-acre tract, out of G. Bayne Survey, A-15 and S. Little Survey, A-417; No. 1 T. H. Hodges, 175 feet south and east NW cor. north 50 acres T. H. Hodges' 111.6-acre tract, out of S. Little Survey, A-417; No. 3 J. E. Martin, 150 feet north and 803 feet west SE cor. J. E. Martin's 105-acre tract, out of E. Votaw Survey, A-827; No. 14 J. B. Oldham and others, 152 feet south and 1,687 feet east NW cor. of their 80-acre lease, J. Chambliss Survey, A-123; No. 15, 418 feet south and 286 feet east NE cor. 80-acre lease, J. Chambliss Survey, A-123; No. 16, 499 feet south and 726 feet east NW cor. 80-acre lease, J. Chambliss Survey, A-123; No. 17, 499 feet south and 1,111 feet east NW cor. 80-acre lease, J. Chambliss Survey, A-123; No. 18, 451 feet south and 1,716 feet east NW cor. 80-acre lease, J. Chambliss Survey, A-123; No. 19, 849 feet south and 726 feet east NW cor. of their 80-acre lease, J. Chambliss Survey, A-123; No. 20, 849 feet south and 1,111 feet east NW cor. 80-acre lease, J. Chambliss Survey, A-123; No. 21, 896 feet south and 1,696 feet east NW cor. 80-acre lease J. Chambliss Survey, A-123; No. 22, 1,196 feet south and 150 feet east NW cor. 80-acre lease, out of J. Chambliss Survey, A-123; No. 23, 150 feet north and 971 feet west SE cor. 80-acre lease, J. Chambliss Survey, A-123. Texhoma Oil & Refining Co.'s No. 3 E. J. Bouldin-A, 940 feet north and 150 feet west SE cor. 80-acre lease, J. Chambliss Survey, A-123; No. 12 N. J. Howard and others, 1,937 feet north and 1,416 feet west SE cor. 150-acre lease, J. Chambliss Survey, A-123; No. 13, 2,287 feet north and 150 feet east SW cor. 150-acre lease, J. Chambliss Survey, A-123; No. 14, 1,989 feet north and 150 feet east SW cor. 150-acre lease, J. Chambliss Survey, A-123; No. 2 J. W. Maddox-A, 605 feet south and 150 feet east NW cor. east 36 acres, Lot 5, C. W. Thompson Survey, A-741. Texhoma Oil & Refining Co. and W. R. Johnson's No. 3 J. W. Maddox, 1,215 feet south and 2,048 feet NW cor. C. W. Thompson Survey, A-741. Texhoma and Republic's No. 5 J. W. Roland and others, 502 feet north and 150 feet west SE cor. 30-acre lease, J. Chambliss Survey, A-123. E. L. Smith Oil Co.'s No. 4 J. W. Maddox, 150 feet north and west SE cor. 40-acre lease, C. W. Thompson Survey, A-741. A. C. Walker and others' No. 1 N. J. Howard and others, 150 feet south and 4,300 feet west NE cor. J. Chambliss Survey, A-123, being 125 feet south and 150 feet east NW cor. 4.5-acre lease.

Cooke County

C. C. Lanier's No. 2 A. Hyman, 750 feet south and 150 feet east NW cor. west 40 acres, north 80 acres, east 113 acres, S half T. J. Moss Survey, A-736. C. C. Lanier and others' No. 5 A. Hyman, 750 feet south and 150 feet NW cor. east 40 acres, north 80 acres, east 113 acres of S half T. J. Moss Survey, A-736. Madden and others' No. 5 S. M. J. Benson, 450 feet north and 150 feet east SW cor. east 65 acres, south 165 acres, Section 1,451, T. E. & L. Survey. J. J. Moran's No. 4 Graham Stewart, 1,854 feet south and 962 feet west NE cor. D. Dawson Survey, A-76. McElreath, Suggett and Phillips Petroleum Co.'s No. 3 L. A. Snyder, 1,440 feet south and 1,770 feet east NW cor. Robert Wilson Survey, A-1,276. Pandem Oil Corp.'s No. 6 H. L. Whitehead, 450 feet south and 150 feet east NW cor. west 40 acres, south 120 acres, Section 166, T. E. & L. Survey. Simms Oil Co.'s No. 2 T. J. Routon, 750 feet north and 150 feet west SE cor. east 80 acres, north 240 acres, Section 181, T. E. & L. Survey. Simms, Cosden and Consolidated Oil Co.'s No. 3 W. W. Gregg, 401 feet north and 1,725 feet west SE cor. Section 17, Young County school land, A-1,234. The Texas Company's No. 2 Graham Stewart, 2,155 feet south and 1,161 feet west NE cor. D. Dawson Survey, A-76; No. 15 A. Beardon, 2,000 feet north and 2,062 feet west SE cor. I. A. Payne Survey, A-1,514 and located in J. A. Hopkins Survey, A-2,086. Texhoma Oil & Refining Co.'s No. 1 T. J. Routon, 150 feet south and west NE cor. east 60 acres, south 80 acres, Section 181, T. E. & L. Survey. Tidal Oil Co. and others' No. 9 S. M. J. Benson-A, 150 feet south and 925 feet west NE cor. east 99 acres, north 132 acres, Section 1,450, T. E. & L. Survey; No. 10, 750 feet north and east SW cor. east 99 acres, north 132 acres, Section 1,450, T. E. & L. Survey. Pitzer & West's No. 2 T. W. Burgess, 560 feet south and 150 feet east NW cor. Clark Smith Survey, A-1,634; No. 3, 860 feet south and 150 feet east NW cor. Clark Smith Survey, A-1,634; No. 4, 1,260 feet south and 350 feet east NW cor. Clark Smith Survey, A-1,634.

Throckmorton County

Humble Oil & Refining Co.'s No. 1 L. S. Ellis, 250 feet north and 466 feet east SW cor. north 200 acres, Section 987, T. E. & L. Survey; No. 3 J. R. Stubblefield, 330 feet south and 335 feet west NE cor. SW, Section 991, T. E. & L. Survey.

Shackelford County

A. G. Carter and others' No. 3 M. B. Proctor, 980 feet south and 2,570 feet east NW cor. Section 5, A. B. & M. Survey. Gwinnup and others No. 1 William Poindexter, Section 46, C NW SE, Section 46, Block 11, T. & P. Survey; No. 1 William Poindexter, Section 59, C SE NE, Section 59, Block 11, T. & P. Survey. Humble Oil & Refining Co.'s No. 2 Mrs. B. A. King, 250 feet south and east NW cor. NE NW, Section 216, Block 10, E. T. R. R. Survey. V. Lester and others' No. 1 W. C. Goodwin, C SW SW, Section 62, Block 13, T. & P. Survey. Milham Corp. of Texas' No. 1 J. N. Moore, 450 feet north and west SE cor. NW, Section 1,561, T. E. & L. Survey. Vickers & Wortham's No. 1 L. H. Hill, 660 feet south and 250 feet west NE cor. N half SE, Section 2, Lunatic Asylum lands. Wentz Oil Corp.'s No. 2 J. M. Proctor, 1,320 feet south and 660 feet west NE cor. NW, Section 188, Block 10, E. T. R. R. Survey; No. 3, 2,640 feet south and 1,320 feet east NW cor. W half, Section 169, Block 10; No. 4, 2,640 feet south and 1,320 feet east NW cor. W half, Section 166, Block 10; No. 5, 1,320 feet south and 2,640 feet east NW cor. N half, Section 199, Block 10. York & Delaney's No. 1 J. B. Matthews, center west 100 acres, J. M. Strader Survey, in P. W. Reynolds Survey.

Stephens County

Mid-Kansas Oil & Gas Co.'s No. 4 J. W. Kirkland, 750 feet north and 1,040 feet east SW cor. W half, Section 14, Block 2, S. P. R. R. Survey.

Palo Pinto County

Dixie Drilling Co.'s No. 1 Mrs. J. B. Hart, 1,320 feet south and 95 feet east NW cor. Section 18, Block 3, T. & P. Survey; No. 1 L. E. Seaman, 230 feet north and 140 feet east SW cor. SE Section 6, Block 3, T. & P. Survey.

Eastland County

Evans and others' No. 1 W. U. Fox, 150 feet north and east SW cor. Section 67, Leagues 3 and 4, McLennan County school land. McLester Oil Co.'s No. 1 J. B. Brown, 150 feet north and east SW for. J. B. Brown's 127-acre tract (Lot 6) in J. M. McGloin Survey, No. 798. Texas Fidelity Oil Corp.'s No. 1 J. P. Leveridge, 150 feet north and west SE cor. N half SW, Section 124, H. & T. C. Survey.

Callahan County

Cranfill & Reynolds' No. 2 E. F. Bond, 150 feet south and 450 feet west NE cor. Section 72, Comal County school land; No. 3, 450 feet south and west NE cor. Section 72; No. 4, E. E. Henderson, 150 feet north and west SE cor. Section 73, Comal County school land. Ingleright and others' No. 1 T. A. Irvin, 150 feet south and east SE cor. Section 1, S. P. R. R. Survey, Block 2, and located in I. & G. N. Survey. Prairie Oil & Gas Co.'s No. 6 B. B. Bond, 240 feet north and east SW cor. west 20 acres of their 375 acres in W. G. Anderson Survey.

Mitchell County

Magnolia Petroleum Co.'s No. 4 Mary Foster, 330 feet south and west NE cor. Section 7, T-1-S, Block 29, T. & P. Survey.

Howard County

Owens & Sloan's No. 1 Otis Chalk, 1,650 feet north and 330 feet west SE cor. Section 113, Block 29, W. & N. W. Survey.

Andrews County

Maer & Staniforth's No. 1 W. S. Taylor, cor. SE, Section 15, Block A-42 school land.

Glasscock County

Plateau Oil Co.'s No. 1 L. S. Bell, C SW, Section 11, T-5-S, Block 35, T. & P. Survey.

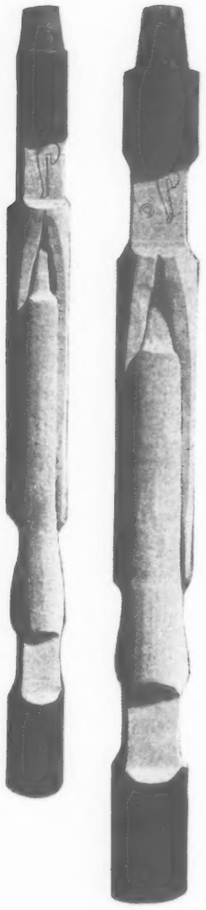
Coleman County

C. M. Root and others' No. 1 H. J. O'Hair, 3,500 feet south and 3,300 feet east NW cor. of Casper Simon Survey No. 770, and located on H. J. O'Hair's 80-acre tract.

Brown County

J. S. Cosden's No. 10 J. F. Fafford, 150 feet south and west NE cor. J. K. Gafford's 170-acre William Miller Survey, No. 149; No. 1 Mrs. T. S. Williams-A, 660 feet north and east NE cor. Robert Mitchell Survey, No. 140, and located in Edmund Pruitt Survey, No. 135. Curry & Moore's No. 4 W. M. Wooldridge, 450 feet north and 150 feet east SW cor. their 30-acre lease, E. T. R. R. Survey, No. 157. Gilman and McMurry's No. 8 J. M. Moore, 500 feet north and 150 feet east SW cor. J. M. Moore's 100 acres, in W. B. Smith Survey, No. 155. Humble Oil & Refining Co.'s No. 1 Armstrong, 1,337 feet south and 200 feet west NE cor. Section 1, Juan Delgado Survey, No. 785. J. E. McKanna's No. 14 J. I. Foster, 750 feet north and 150 feet east SW cor. west 40 acres, east 84 acres, of J. I. Foster's 110 acres, Thomas Benson Survey, No. 783. William Lester's No. 4 M. E. Fry, 1,390 feet north and 900 feet west SE

Murray Jars



When the mud packs . . . when drilling seems impossible . . . then do Murray jars prove their merit.

These jars are so designed that they will work freely, yet never "sloppy." They have a tensile strength of 13,000 pounds or more to the square inch; their construction affords sixty per cent more wearing surface than is found in the ordinary jar and their operations are entirely uniform.

MURRAY jars have never failed yet, and a test on your next job will prove why they are universally popular with the leading operators.

Murray Tool & Supply COMPANY
TULSA, OKLA.

cor. M. E. Fry's 320 acres in J. Chaudoin Survey, No. 621. Magnolia Petroleum Co.'s No. 2 M. E. Fry, 150 feet south and 450 feet west NE cor. of their 80-acre lease in J. Chaudoin Survey, No. 621. Midwest Exploration Co.'s No. 11 Mrs. M. J. Suttles, 2,215 feet south and 150 feet east NW cor. of Mrs. M. J. Suttles' 960 acres, Robert Mitchell Survey, No. 140. Prairie Oil & Gas Co.'s No. 8 W. M. Wooldridge, 750 feet west and 150 feet north SE cor of their 60 acres, E. T. R. R. Survey, No. 157. The Texas Company's No. 2 Roy Hickman, 1,120 feet west and 450 feet north SE cor. of their 160-acre lease, Thomas Benson Survey, No. 783. West and H-Y Oil Co.'s No. 14 J. W. Newton, 150 feet north and west SE cor. J. W. Newton's 360 acres, Robert Mitchell Survey, No. 141. Williamson and others' No. 4 J. H. Keller, 1,350 feet west and 150 feet north SE cor. north 80 acres of J. H. Kellar's 180 acres, Robert Mitchell Survey, No. 141; No. 5, 1,050 feet west and 450 feet north SE cor. north 80 acres, same 180 acres.

Reagan County

Texon Oil & Land Co.'s No. 5 University Group 2, 1,320 feet south and 1,900 feet east NW cor. Section 4, Block 8, University lands.

Upton County

Dixie Oil Co.'s No. 6 E. S. Hughes, 330 feet south and 2,230 feet east NW cor. William Teer Survey, No. 4, A-806. Independent Oil & Gas. Co.'s No. 9 Len Taylor, 2,640 feet north and 330 feet west SW cor. Section 11, Block 3½, C. C. S. D. & R. G. N. G. Survey, and located in S. T. Sapp Survey, No. 6; No. 4 Emma Wooley, 330 feet SW of NE line and 330 feet NW of SE line, Section 3, G. C. & S. F. Survey, A-229. Marland Oil Co.'s No. 23 A. S. Burleson, 1,530 feet north and 2,937 feet west SE cor of their 480-acre lease, T. C. Jones Survey, No. 100; No. 24, 2,180 feet north and 3,600 feet west SE cor. of their lease; No. 25, 1,530 feet north and 1,640 feet west SE cor., same 480 acres.

Menard County

J. R. Lewis and others' No. 1 White, C NW of Seth Mabry Survey, No. 8.

ARTESIA, NEW MEXICO

(Continued from Page 52)

company has abandoned its test in the SW SE, Section 8-18-28, a shot failing to make it a producer.

Eddy County Drilling

Dave Compton's No. 2 Mann permit, Section 3-18-27, Eddy County, is shut down at 2,060 feet; Cook-Ironsides' No. 1, Section 10-20-29, drilling at 1,950 feet; Decum Development Co.'s No. 1 Vandagriff permit, Section 5-17-28, bailing. Flynn-Welch & Yates' No. 49 in Section 3-18-28, on production. No. 3 Dunn permit, Section 10-18-28, shut down; No. 51, Section 28-18-28, drilling 1,600 feet; Rehn and others, No. 1 Winans, Section 15-18-26, drilling at 1,300 feet; Hamilton Petroleum Co.'s No. 1 Billings, Section 12-19-26, drilling 1,050 feet; Hasenfuss & Donley's No. 2 Keyes, Section 13-18-28, drilling below 2,450 feet; Henderson-Dexter & Blair in Section 9-19-28, drilling at 1,760 feet; Levers & Carper's No. 3, Section 3-18-28, on production; No. 4, same lease, drilling at 250 feet; Navajo Oil Co.'s No. 2, Section 28-17-28, rigging up. Ohio Oil Co.'s No. 2 New States, Section 8-18-28, abandoned after a shot. Ohio Oil Co.'s No. 7 Toomie Allen, Section 28-18-28, rigging up; Phillips & Welch's No. 1, Section 35-17-28, drilling at 2,475 feet; Swartz-Compton & Eaton's No. 1 Brainard permit, Section 5-18-27, shut down at 2,002 feet; Sun Oil Co.'s No. 1, Section 21-25-30, drilling below 1,300 feet; Skelly Oil Co.'s No. 1 Lynch permit, Section 22-17-31, drilling 3,330 feet; Bruce Sullivan's No. 1, Section 1-18-31, drilling in salt at 1,430 feet; Merriwether and others' No. 1 Goodale, Section 19-18-29, drilling below 2,360 feet; Wooley-Jones' No. 1 Beeson, Section 33-17-30, shut down at 3,140 feet for repairs; Pueblo Oil Co.'s No. 1, Section 33-17-28, drilling below 850 feet.

In Lea County

Cap-Rock Oil & Gas Corp.'s No. 1, Section 11-16-32, waiting for rotary. Henderson-Dexter & Blair's No. 1 Wyatt permit, location in SW SW, Section 34-17-33. Inglefield and others' No. 1, Section 4-17-34, drilling below 1,200 feet; Maljamar Oil & Gas Corp.'s No. 1 Baish, Section 21-17-32, on production, good for 250 bbls.; Maljamar Oil & Gas Corp.'s No. 1 Grace Mitchell permit, Section 5-17-32, spudded in; T. P. McDonald's No. 1 Section 22-18-34, drilling; Ohio Oil Co.'s No. 1 William Mitchell permit, Section 18-17-32, drilling at 100 feet; No. 1 Pearl Miller permit, rigging up.

LOUISIANA WILDCATS

(Continued from Page 48)

Section 23-16-10, is drilling in hard lime at 1,350 feet.

Bossier Parish

Doern and associates' No. 1 Bollinger, Section 9-22-11, tested 500,000 feet of gas and salt water in sand at 2,656-62 feet and is shut down for orders. Woodley and Collins' No. 1 Antria, Section 4-21-11, is drilling in sandy lime at 2,560 feet.

Caldwell Parish

Southern Crude Oil Co.'s geological test, No. 2 Caldwell Lumber, Section 1-13-5e, was dry and abandoned at 519 feet. Keisker and Simon's No. 1 Merideth, Section 38-13-4e, was drilled to 940 feet and drillers are trying to kill a water flow at 400 feet.

Claiborne Parish

The 4½-inch casing was cemented at 4,513 feet at Gilliland & Ramsey's No. D-1 Taylor, Section 14-23-8, and the total depth of the hole is 4,530 feet. Gulf Production Co.'s No. 1 Crichton, Section 35-19-8, is drilling in lime at 2,298 feet. Shaw & Ruch's No. 1 King, Section 20-21-8, is drilling in rock at 920 feet. Triangle's No. 1 Keen, Section 7-19-5, drilling in lime at 4,540 feet.

De Soto Parish

Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, had a slight show of oil at 4,496 feet and is drilling ahead at 4,506 feet. Magnolia's No. 1 Bond, Section 27-12-11, is drilling in hard lime at 3,860 feet. Twelve hundred feet of the drill stem is being fished from 2,815 feet at Peer Oil Corp.'s No. 1 Woolums, Section 23-13-13. Snapp and associate's No. 1 Flores, Section 27-11-11, is drilling lime at 1,570 feet.

East Carroll Parish

A derrick is up for T. A. Snell's No. 1 Abston, Crump and Winn Co., Section 24-19-12e.

Grant Parish

F. M. Fuller and associate's No. 1 Harrison, Section 9-8-5w, was dry and abandoned at 1,715 feet. Gulf Refining Co.'s No. 2 Swope, SE NW SW, Section 17-9-1e, is a rig. Humble Oil & Refining Co.'s No. A-1 Edenborn, Section 30-9-2w, is drilling at 2,416 feet. Holmes and associates' No. 1 Holmes, Section 17-9-1e, is drilling at 1,460 feet. A derrick pattern is on location for H. L. Hunt's No. 1 Matthews estate, NW NW, Section 15-9-1e. J. J. Long and associates' No. 1 Calhoun, Section 4-7-4w, is shut down at 30 feet for boiler repairs. The Texas Company's No. 1 Swope, Section 16-9-1e, stood with 1,200 feet of fluid in the hole, 200 feet oil and the rest salt water. The test had sand at 1,573-81 feet and drilled itself to 1,597 feet. It is being plugged back to 1,587 feet and screen will be set and another test made. Tunica Petroleum Co.'s No. 10 L. & A. Section 8-8-1w, is a derrick.

Jackson Parish

Charles A. Ferguson's No. 1 Martin, Section 5-15-1e, is drilling at 1,846 feet. El Dorado Chief Oil Co.'s No. 1 Jones, Section 3-14-4w, is drilling at 400 feet. Grigsby & Co.'s No. 1 Adams, Section 22-17-4w, is drilling at 1,000 feet. Louisiana Petroleum Co.'s No. 1 Davis Theus, Section 30-16-3w, is drilling in gumbo at 1,900 feet.

Lincoln Parish

Arkansas Fuel Oil Co.'s No. 1 Lincoln Land Co., Section 3-18-3w, is drilling in hard sand streaked with chalk rock at

1,504 feet. Buckley and Palmer's No. 1 Davis, Section 12-20-3w, is drilling at 2,315 feet.

Natchitoches Parish

Brothers and associates' No. 1 Cockfield, Section 78-7-5w, is drilling at 1,060 feet. Davison and associates' No. 1 L.L.L.L. Co., Section 21-7-9, is a derrick. Forrest's No. 2 Ayers, Section 3-13-7, is shut down at 1,535 feet. J. B. Greer's No. 1 L.L.L.L. Co., Section 6-5-7w, is drilling at 765 feet. McCormick and associates' No. 1 Russell, Section 41-10-7, is a derrick. Ohio Oil Co.'s No. 1 L.L.L.L. Co., Section 20-8-8w, is drilling at 84 feet. Weaver Brothers' No. 1 fee, Section 4-7-7, is drilling at 1,185 feet.

Rapides Parish

F. Pacholik's No. 1 Voda, Section 12-4n-1e, is drilling at 125 feet. Seip and associates' No. 1 Ball, Section 41-4n-2w, is drilling at 60 feet.

Red River Parish

Alden Oil Co.'s No. 1 Powell, Section 13-11-10, is drilling in gray sand at 1,197 feet.

Richland Parish

Gulf Refining Co.'s No. 1 Ches-Wyman, Section 23-18-8e, is drilling in shale at 1,770 feet. Louisiana Petroleum Co.'s No. 1 Hicks, Section 22-17-6e, is a rig. Roxana Petroleum Corp.'s No. 1 Tensas Delta, SE cor. Section 3-14n-5e, is a derrick pattern.

Sabine Parish

The plug at 4,035 feet is being drilled at L. M. Emlet's No. 5 H. L. Bowman, Section 9-7-12. Bowman's No. 7 H. L. Bowman, Section 14-7-14, is drilling in shale at 1,607 feet. Godchaux and associates' No. 1 Nona Mills, Section 12-4-13, is being rigged. Magnolia Petroleum Co.'s No. 1 L.L.L.L. Co., Section 11-6-11, is drilling at 50 feet.

Tensas Parish

Spencer and Rhodes' No. 1 Somerset, Section 29-14-12, is drilling in lime at 2,075 feet.

Winn Parish

Tatum and Pitts abandoned location for No. 1 Milan, Section 8-13-3w. Ohio Oil Co.'s No. 2 Edenborn, Section 4-12-1w, is drilling in rock at 1,031 feet.

La Salle Parish

Tunica Petroleum Co.'s No. 7 L. & A., Section 1-8-1e, was abandoned in salt water sand at 1,746 feet. Humble Oil & Refining Co.'s No. 3 L. & A., Section 25-11-3e, cored salt water sand at 1,572 feet. N. C. Hudson's No. 1 Uranin, Section 6-10-2e, is drilling at 200 feet. Tunica Petroleum Co.'s No. 4 L. & A., Section 15-9-3e, is drilling at 1,326 feet. Location was made for Tunica's No. A-12, SE NE SW, Section 25-9-1e.

N. LOUISIANA-ARKANSAS

(Continued from Page 48)

11-16-15, is being bailed to test a broken formation at 2,140-60 feet. The Humble Oil & Refining Co. is drilling cement at 2,384 feet at No. 5 Pate, Section 10-16-15. H. L. Hunt's No. 1 Hammond, Section 27-16-16, is standing with 1,500 feet of fluid in the hole, 80 per cent salt water, from sand at 2,684-89 feet and is to be put on the beam. Hunt's No. 5 Swilley, Section 27-16-16, is a derrick. Imperial's No. 1 Goodwin, Section 26-17-16, is drilling in soft sand at 2,915 feet.

Lion Oil & Refining Co.'s No. 10-A Graves, Section 3-16-15, is making 5,000,000 feet of gas and 75 bbls. of oil from sand at 2,667-73 feet and is shut down for orders. Magnolia Petroleum Co.'s No. 3 Childs, Section 8-16-16, is drilling at 1,700 feet. Eight and one-fourth inch casing was cemented at 2,057 feet at Magnolia's No. 1 Murphy, Section 28-16-16. Magnolia's No. 2 M. J. Scott, Section 12-16-17, is drilling at 700 feet. Ohio's No. 11 Pate, Section 10-16-15, tested salt water at 2,689 feet and is to be plugged back. Six-inch casing was cemented at 2,652 feet at Peer Oil Corp.'s No. 7 Cook, Section 17-16-15.

Simms Oil Co.'s No. 1 H. O. Murphy, Section 34-16-16, is a rig. Surface casing was set at 194 feet at Southern Crude Oil Purchasing Co.'s No. 10 Graves, Section 3-16-15. Southern's No. 5-A Wells, S half NE NW, Section 15-16-15, is a rig. Standard Oil Co.'s No. 4 Reynolds, Section 6-18-15, was dry at 2,157 feet and is to be deepened with standard tools. Sun Oil Co.'s deep test, No. 9 Brown, Section 8-18-15, is drilling in hard lime at 3,600 feet. The Texas Company's No. 8 Calloway, CSL NE SE, Section 4-16-15, is a rig. The Texas Company's No. 8 Hays, Section 4-16-15, is drilling at 922 feet.

Ouachita County

In Smackover, Houston Oil Co.'s No. 2 Hinton, Section 5-16-15, is pumping 125 bbls. of fluid, 60 per cent salt water, from sand at 2,362-94 feet. Imperial Oil & Gas Co.'s No. 10 McClanahan, Section 6-16-15, is pumping 40 bbls. from sand at 2,549-54 feet. In the Stephens district, J. D. Reynolds' No. 1 Howell, Section 15-14-18, was dry at 2,262 feet and abandoned with the casing in the hole.

Copenhaven's No. 2 Berg, Section 13-15-17, is drilling at 2,160 feet. Gulf Refining Co.'s No. 20-A Umsted, Section 33-15-15, is drilling in red shale at 2,754 feet, and No. 21-A is drilling at 2,170 feet. A derrick pattern is on location for No. 22-A Umsted, 1,600 feet north and 725 feet west SE cor. Humble Oil & Refining Co.'s No. 10 Hildebrant, Section 28-15-15, is drilling in sand and shale at 2,583 feet. W. R. Keever's No. 2 Neeley, Section 27-15-16, is waiting for 8¼-inch casing to set at 1,978 feet. A. Meek's No. 2 Clawson, Section 35-15-17, is waiting for the 6-inch to set at 2,276 feet. Phillips Petroleum Co.'s No. 1 Tate, Section 9-14-17, is drilling at 3,131 feet with cable tools. J. D. Reynolds' No. 3 Ratch & Cartier, Section 2-14-18, had only a showing of oil at 1,463 feet and the liner is being pulled to deepen the test.

Ten-inch casing was set at 456 feet at Roxana Petroleum Corp.'s No. 7 Berg, Section 28-15-15. Standard Oil Co.'s No. 8-B Bennett, Section 32-15-15, is being bailed at 2,587 feet and is making 150 bbls. of oil and 1,000,000 feet of gas. Surface casing was cemented at 300 feet at Standard's No. 11-B Murphy, Section 28-15-15, and the test is drilling at 1,730 feet. The liner is being pulled from 2,046 feet at Sun Oil Co.'s No. 2 Hardin, Section 22-15-16. Sure Oil Co.'s No. 4 Snyder, Section 34-15-15, is drilling at 1,400 feet. Surface casing was set at 56 feet at The Texas Company's No. 8 Neeley, Section 27-15-16. Oil sand was cored at 2,639 feet at Woodley Petroleum Co.'s No. 5 Richardson, Section 29-15-15, and casing is being set at 2,630 feet.

In the Stephens district, Louisiana Oil Refining Corp.'s No. 1 Holton, Section 15-15-19, is shut down at 1,554 feet for orders. Six-inch casing was cemented at 2,110 feet at Magnolia Petroleum Co.'s No. 5 Watson, Section 31-15-19. Ohio Oil Co.'s No. 1 J. M. Curry, Section 32-15-19, is being bailed to test at 2,118 feet.

Columbia County

Gordon and associates' No. 6 Jones, Section 1-16-20, is waiting for a standard rig at 2,233 feet. Gordon and associates' No. 7 Jones is drilling at 1,000 feet.

Nevada County

Bemis and associates' No. 1 Ellis, Section 2-14-21, is waiting for 6-inch casing to set at 1,130 feet. Humble Oil & Refining Co.'s No. 4 Bodcau, Section 10-14-21, is drilling at 2,709 feet. Zing and associates' No. 1 Moss, Section 12-14-21.

KANSAS FIELDS

(Continued from Page 44)

sand at 3,150-56 feet. Connell & Sheldon's No. 1, NW cor. SW NE, Section 19-27-7, is dry and abandoned at 2,786 feet. Empire Gas & Fuel Co. has a failure in No. 3, NW cor. SW NE, Section 27-27-7, which is abandoned at 2,850 feet. Phillips Petroleum Co.'s No. 1, SE cor. SE, Section 17-28-6, made 40 bbls. from sand at 3,132-43 feet. Magnolia Petroleum Co.'s No. 2, NW cor. NE NE, Section 20-28-6, made 100 bbls. on the pump from sand at 3,117-27 feet.

Greenwood County—New Work

Mid-Kansas Oil & Gas Co. has spudded No. 8, CNL NE, Section 30-25-9. The

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Turbo-generator for Rig Lighting

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The Star Witness in Favor of Hoover Special Oil Well Balls

Savings in labor costs—reduced replacement costs—continuous production—now practically possible with this product of proven merit

WITH the introduction of the Hoover Special Oil Well Ball, Hoover took a definite step in the direction of ironing out some of the difficulties that confronted every operating executive in the oil industry.

The cost of pulling wells due to the failure of steel balls in the working barrels was a costly practice. Repair and replacement costs exacted a heavy penalty. But a trifling penalty compared with the loss of production and the costly charges of paying productive labor for unproductive work.

Since their introduction in 1920, following years of experimentation and tests under actual working conditions in the different fields, Hoover Special Oil Well Balls have set up an unequalled record for profitable performance under the severe conditions of oil well service.

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HOOVER

METAL STEEL – BRASS ALUMINUM BRONZE MONEL METAL STAINLESS STEEL **BALLS**

rig is on the ground for No. 9 Hoffman, C SW SW, Section 30-25-9. Polhamus and others are drilling at 790 feet in No. 1 Gray, CNL NW SE, Section 26-24-9. J. Edwards and others are shut down at 3,050 feet in No. 1 Edwards, NW cor. NW, Section 23-24-10. Manhattan Oil Co. is spudded in No. 1, SE cor NE, Section 35-24-10. McKenna & Crawford are drilling at 980 feet in No. 1-A Freeman, SW cor. NE, Section 6-24-11. Manhattan Oil Co. has a rig on the ground for No. 1 O'Neill, NW cor. NW, Section 17-24-11. Ward McGinnis and others have spudded No. 6-C, NW cor. SE NW, Section 30-24-11. No. 3-E, SW cor. NW, Section 30-24-11, is also spudded. Theta Oil Co. has a rig on the ground for No. 1 Rockhill, NW cor. NW, Section 31-24-11. Mountain Oil Co. has the rig up for No. 1 Byrne, NE cor. SW, Section 12-27-9. Hibbard and others are drilling at 750 feet in No. 1, NE cor. SW, Section 2-28-8.

Manhattan Oil Co. and others have a rig on the ground for No. 2 Bradfield, NE cor. SW SE, Section 2-22-10. Syndicate Oil Co. has a rig on the ground for No. 3 Bradfield, SW cor. SE SE, Section 2-22-10. Sinclair Oil & Gas Co. is drilling at 400 feet in No. 47, C W half SW, Section 20-22-10. Empire Gas & Fuel Co. has the rig up for No. 15 Kipfer, NE cor. NW SE, Section 11-22-11. The rig is also up for No. 13 Thomm, SE cor. NW, Section 14-22-11, and for No. 7 Bartlett, SW cor. NE SE, Section 15-22-11; No. 8 Frankhouser, SE cor. SE, Section 4-22-12, is also a rig; and No. 4 Frankhouser, SE cor. SW NE, Section 4-22-12, is rigging up.

Greenwood County—Completions

Manhattan Oil Co.'s No. 1, NE cor. SE, Section 36-24-10, is dry and abandoned at 2,225 feet. McGinnis and others' No. 9-B, NW cor. SW, Section 30-24-11, had sand at 1,794-1,824 feet and made 450 bbls. after a shot of 100 quarts. No. 10-B, SW cor. SW, Section 30-24-11, had sand 1,820-44 feet and made 200 bbls. after a shot of 80 quarts. Peerless Oil Co.'s No. 1, NW cor. NE, Section 33-24-11, is dry and abandoned at 1,945 feet. Syndicate Oil Co. has a dry hole at 1,815 feet in No. 2, NW cor. SW, Section 6-24-12.

Manhattan Oil Co.'s No. 1, SE cor. NW NE, Section 12-23-8, is dry and abandoned at 2,500 feet. White Eagle Oil Co. and Phillips Petroleum Co. have a failure in No. 2-A, NW cor. SE SE, Section 19-23-9, which is abandoned at 2,717 feet. R. E. Day and others' No. 4, NE cor. SE SW, Section 1-22-10, is good for 100 bbls. after a shot of 140 quarts in sand at 1,980-2,014 feet. Syndicate Oil Co.'s No. 5, SW cor. NW SW, Section 1-22-10, had sand 1,980-2,037 feet and made 400 bbls. after a shot of 240 quarts. Empire Gas & Fuel Co.'s No. 11, NE cor. SW, Section 6-22-10, had sand 2,228-78 feet and made 40 bbls. after a shot of 60 quarts. Phillips Petroleum Co.'s No. 8, NW cor. NE SW, Section 12-22-10, made 100 bbls. after a shot of 160 quarts in sand at 2,075-2,122 feet. The Prairie Oil & Gas Co. has a dry hole at 2,552 feet in No. 1, NW cor. NE NW, Section 1-23-9. Empire Gas & Fuel Co. and others' No. 7, NE cor. SE SE, Section 4-22-12, had sand 1,826-32 feet and made 20 bbls. after a shot of 40 quarts.

Lyon County—Completions

Ritchie & Moore's No. 1, NW cor. NW NE, Section 32-18-10, is dry and abandoned at 2,353 feet. Sheedy and others' No. 13, NE cor. SW SW, Section 31-21-10, is dry and abandoned at 2,400 feet. Transcontinental Oil Co. has lost the hole at 2,219 feet and has skidded the rig in No. 7, SW cor. NE, Section 31-21-10. Terrien & Ballierre's No. 1, SE cor. NE, Section 2-20-13, is dry and abandoned at 1,742 feet. Connell and others have a failure in No. 1, SE cor. SW NE, Section 25-20-13. Ritchie & Moore's No. 1, NE cor. NE, Section 14-21-13, is dry and abandoned at 1,862 feet.

Lyon County—New Work

Suppes Six Oil Co. has a rig on the ground for No. 4 Bosalia, SW cor. SE, Section 24-21-10. Terrien & Ballierre have rigged up a machine for No. 1 Clemmer, NE cor. NW, Section 33-21-13.

Coffey County—New Work

Arkansas Fuel Co. and Trees Oil Co. have spudded No. 1 Kaufman, NE cor. NW SW, Section 29-22-14. William McDougal has abandoned the location for No. 1, NE cor. NW SW, Section 2-23-13. Mid-Continent Petroleum Corp. is drilling at 1,330 feet in No. 7, CNL SE NE, Section 28-23-13. Prairie Oil & Gas Co. has the rig up for No. 11 McLaskey, NW cor. SW NW, Section 29-23-14.

Coffey County—Completions

Farrish and others' No. 1, SW cor. NW, Section 16-23-13, had sand 1,780-1,823 feet and has averaged 14 bbls. after a shot of 80 quarts. Little Seven Oil Co.'s No. 1, NE cor. SE NE, Section 30-23-14, made 30 bbls. after a shot of 40 quarts in sand 1,653-72 feet.

Russell County

H. F. Wilcox Oil & Gas Co. has spudded No. 1 Wilson, CSL SW SW, Section 14-12-13w. Midwest Oil Co. is drilling at 800 feet in No. 36 Dortland, SE cor. NW, Section 5-14-15w.

Lane County

Alamota Dome Oil & Gas Co. has a dry hole at 3,725 feet in No. 1 Dickerson, C S half Section 11-18-27w.

GULF COAST FIELDS

(Continued from Page 48)

duction Co.'s No. 25 Smith is a 15-bbl. pumper at 2,750 feet. The Southern Exploration Co.'s No. 7 Freeman in the bay will make a pumper at 2,800 feet.

The Humble Oil & Refining Co.'s No. 2 Galliard peninsula will be deepened. No. 12 peninsula is pulling the liner at 3,475 feet. Derricks are up for Nos. 17 and 31. On the Smith tract on the east side of the pool, the Humble Co.'s No. 26 Smith is being deepened and No. 69 Smith is drilling around 5,150 feet, one of the deepest tests now drilling in the pool. The Gulf Coast Oil Corp.'s No. 9 Galliard is working over at 2,875 feet. The Gulf Production Co.'s No. 10 State land in the bay is drilling deeper at 2,370 feet. No. 7 Wright is around 5,280 feet. This is the deepest hole drilling there now. Casing has been set in Nos. 6 Hirsch at 4,500 feet and 34 Beaumont at 3,450 feet. Both are in the bay waters.

Liberty County Pools

In the Hull Pool, the Empire Gas & Fuel Co.'s No. 19 Barngrover is pumping 350 bbls. No. 21 is bailing at 2,975 feet. The Gulf Production Co.'s No. 18 Thomas fee is pumping 150 bbls. at 2,725 feet. The Republic Production-Houston Oil Co.'s No. 133 Dolbear, which started flowing 700 bbls. last week from 2,730 feet, is going on the jack. The Humble Oil & Refining Co.'s No. 1 Lynd is bailing at 4,350 feet.

The Gulf Co. has locations for Nos. 73 and 74 Phoenix. No. 18 Scarborough is drilling around 3,910 feet and No. 18 Hannah fee below 4,700 feet. The Humble Oil & Refining Co. has locations for No. 1 Baldwin, No. 2 Lynd and No. 5 Merchant. Its No. 22 Guedry is around 1,780 feet and No. 4 Hooks-Spell is drilling deeper. No. 1 Bevers is around 4,570 feet. The Republic Production-Houston Oil Co.'s No. 126 Dolbear is deepening around 2,338 feet. No. 136 is drilling at 1,270 feet. No. 137 at 2,310 feet and No. 138 at 1,090 feet. The Texas Company's No. 1 Hannah fee is washing at 2,980 feet and No. 1 Armlein drilling around 1,080 feet. The Empire Gas & Fuel Co.'s No. 20 Barngrover is drilling around 3,090 feet. The Hull Oil Co.'s No. 4 Harrison is at 3,065 feet and No. 11 Abel around 1,544 feet. A location has been made for the Houston Production Co.'s No. 10 Taylor.

In the South Liberty Pool, the Peer Oil Co.'s No. 1 Harrison is sidetracking drill pipe stuck in the hole. The Sinclair Oil & Gas Co.'s No. 1 Condit is working over. In the west side extension, the Humble Oil & Refining Co.'s No. 3 Welder is drilling around 2,000 feet and No. 4 is rigging. The Gulf Production Co.'s No. 1 Beckman is starting.

Rycade's Well

The Rycade Petroleum Corp.'s No. 8 Wisdom off the Nash Dome is flowing

1,000 bbls. at 4,286 feet. That company has started No. 4 Flessner and is drilling Nos. 9 Wisdom and 8 Nash. The Humble Oil & Refining Co. has a derrick for No. 1 Nash.

In the Batson Pool, the Houston Production Co. got salt water in No. 1 Santa Fe at 3,100 feet and is deepening it. The Paraffine Oil Co.'s No. 67 Paraffine is drilling around 700 feet and the East Batson Oil Co.'s No. 1 Counselman at 865 feet. The Gulf Production Co.'s No. 63 Choate is around 970 feet and No. 1 Cruse at 2,190 feet. The Ada Belle Oil Co.'s No. 109 Texas is rigging. The Buchanan Oil Co.'s No. 90 Milhome is at 890 feet with a location made for No. 91. The Texas Company's No. 2 La-Jarza, a deep test on the east side, is drilling around 2,200 feet.

In the Saratoga Pool, the Skinner Oil Co. has a derrick for No. 1 Bower. Paggi & Co.'s No. 43 Queen City is idle. The Rio Bravo Oil Co.'s No. 11 Jordit is drilling around 1,210 feet.

The old Markham Pool in Matagorda County has a 150-bbl. well in the Rycade Petroleum Corp.'s No. 2 Kountze on the south side, at 3,560 feet.

The Humble Oil & Refining Co. is rigging No. 1 Myers fee at Barber Hill in Chambers County.

At High Island, the Gulf Co.'s No. 5 Smith is at 4,890 feet. The Sun Oil Co.'s No. 8-C Cade is below 4,376 feet. No. 11 Cade is around 4,900 feet. No. 9 Lockhart is shut down.

The Hyde Production Co.'s No. 2 Masterson on the northeast side at West Columbia is around 1,445 feet.

In the Blue Ridge Pool, the Gulf Production Co.'s No. 6 West-Schenck on the south flank, is around 3,345 feet. No. 9 Luscher on the east flank is rigging and No. 10-C Blakely on the northeast is drilling deeper. The Navarro Oil Co.'s No. 1 Robinson on the west side is rigging.

South Louisiana

In the Edgerly Pool, the Rex Petroleum Co.'s No. 3 Hunter is bailing at 3,700 feet. C. M. Crott's No. 14 Lilliard is drilling around 1,655 feet.

In the Lockport Pool, the Vacuum-Gulf's joint No. 3 Bordages is bailing at 3,775 feet. No. 8 Miller is around 4,435 feet and No. 10 Miller is below 5,175 feet. No. 4 Lock-Moore is around 5,815 feet. The deepest test to date in the Coast region was drilled in the Lockport district last year, going to 6,115 feet. No. 1 Farquhar is around 3,255 feet. No. 1 Bayou D' Inde is around 1,655 feet with a location for No. 2.

Boling Pool

The Texas Company's No. 2 Felder in the Boling Pool in Wharton County, is at 2,670 feet. No. 1 Farmer on the northeast flank is around 3,170 feet and the Sun Oil Co.'s No. 1 Farmer is drilling below 1,700 feet. Weed and Gayle's No. 2 Barker and No. 2 Keller in the shallow sand section on the dome are rigging. The wells there have quit flowing. The Texas Co.'s No. 3-A Taylor flowed 300,000 bbls. before quitting and its No. 7-A Taylor put out 80,000 bbls. flowing between April 16 and May 22 last, when it ceased and was put on the jack.

The Gulf Refining Co is rigging No. 38 Arndalt in the Jennings Pool and No. 41 Star in the Vinton Pool.

In addition to the Humble Co. rigging at Barber Hill, Mills Bennett-Humphrey Corp. is drilling No. 3 Barber and No. 6 fee. Barclay and Meadors' No. 2 Barber has started.

The Old Colony Oil Co. is drilling No. 13 Liberty in the Dayton Pool in Liberty County.

Wildcats

Wright Brothers' No. 1 Lee in Jackson County, near Edna is a gas well, estimated at 60,000,000 feet.

In Harris County, the Kane Exploration Co. abandoned No. 1 Foster Lumber Co. at 1,975 feet.

In Liberty County, The Texas Company quit No. 3 League at 1,425 feet.

The Humble Oil & Refining Co. set 10-inch casing in No. 1 Henderson, 12 miles west of Lufkin, Angelina County, at 900 feet and is now drilling ahead at 1,100 feet. The Flanigan Drilling Co.'s No. 1 Mantooth in side the Lufkin city limits, is drilling.

The test near Post Oak, Polk County, is around 1,000 feet. The Moraco Oil Co.'s No. 1 Dodds, near Iola, Grimes County, is around 1,100 feet.

Wharton County: J. W. Rich-Humphrey Corp.'s No. 1 Malone, 5 miles west of Wharton, shut down.

Matagorda County: The Humble Oil & Refining Co. will probably abandon No. 1 Van Vleck in the southeastern part of the county around 3,200 feet. At Hawkins Dome the Gulf Production Co.'s No. 1 Parkinson is around 3,565 feet. No. 5 Craig is drilling about 655 feet.

Brazoria County: Gulf Production Co.'s No. 1 Perry and Stratton Ridge Syndicate's No. 1 Dannebaum drilling on south side and north flank of Stratton Ridge Dome. Roxana Petroleum Corp.'s No. 2 Allen Dome in the southern part of county, drilling below 4,980 feet.

Fort Bend County: At Long Point, the Gulf Production Co.'s No. 15 Davis at below 1,516 feet and No. 16 Davis is rigging to start.

Orange County: Brownie Babbittee Oil Co.'s No. 1 Lake Shore farm shut down.

Chambers County: Roxana Petroleum Corp. is rigging No. 1 Moss Bluff on State land. Osage Oil Co.'s No. 1 lake, a location.

Liberty County: George Leland and others' No. 1 Grogan Lumber Co. lands, 14 miles north of Dayton, drilling around 700 feet.

Jefferson County: Big Hill Dome, Houston Oil Co.'s No. 2 Sun-Dyson drilling at 2,900 feet. Fannette Dome: Gulf Production Co.'s No. 2 Bordages drilling below 2,280 feet sidetracking. Port Arthur Development Co.'s No. 6 near Westbury, riggin. No. 5 abandoned in salt at 2,260 feet some time ago.

Harris County: Burt and Griffith are drilling No. 1 fee near Humble highway. Kelly and others' No. 1 Lipper drilling around 3,016 feet. Gwyne's No. 1 Cage, near Huffman, drilling below 1,385 feet. Barin and others' No. 1 north of Spring, location.

Austin County: Valley Oil Co.'s No. 1 Thompson, shut down.

St. Mary's Parish, Louisiana: Pure-Humphrey Corp.'s drilling No. 1 Avoca Island, rigging No. 2.

Calcasieu Parish: H. C. Hanszen drilling No. 1 Harlan and No. 1 Le Franc jointly with the Union Sulphur Co.

Cameron Parish: Indications of another salt dome have been discovered by H. C. Hanszen in the southeastern part of the parish, about 12 miles west of the Johnson Bayou region. The Sun-Humble Co.'s joint No. 1 at Johnson's Bayou is around 2,700 feet. Pure Oil Co.'s No. 3 Sweet Lake in the southeastern part of the parish is below 5,350 feet.

St. Martin Parish: Lawrence and Schmidt have started No. 2 Moresi at Anse La Bute. The Ohio Oil Co. rigged No. 1 Burke, Section 28-9s-7e.

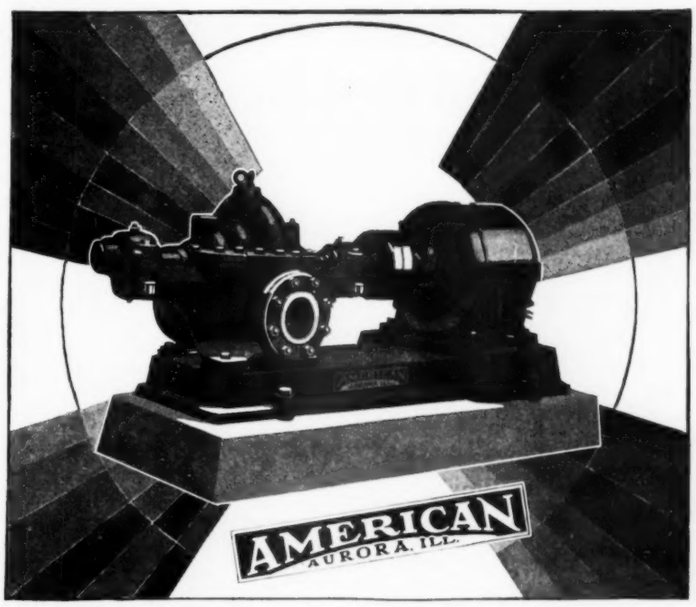
Jeff Davis Parish: Gulf Refining Co. and Emerson & Noble's joint No. 1 Hardy drilling.

Estimated Gross Production

The estimated daily average gross production of the Gulf Coast pools for the week of August 28 is placed at 167,710 bbls. compared with 170,630 bbls. last week. It shows a decrease of 2,920 bbls.

The estimate for each pool is as follows:

Pool—	Gross Bbls.
Boling	2,500
Batson	1,500
Blue Ridge	1,200
Big Creek	1,950
Barber Hill	560
Dayton	200
Damon Mound	850
Edgerly (La.)	750
Goose Creek	10,650
Humble	4,650
Hull	18,000
High Island	80
Jennings, (La.)	1,200
Lockport, (La.)	4,300
Markham	215
Nash	800
Orange	8,100
Orchard	200
Pierce Junction	3,400
Piedras Pintas	120
Spindletop	77,750
Saratoga	1,450
Sour Lake	7,350
South Liberty	4,350
Vinton, (La.)	6,400



THE "American" type DSMD centrifugal pump is a horizontal split shell, single stage, double suction, centrifugal pump furnished with bronze enclosed impeller, bronze labyrinth wearing rings, bronze shaft sleeves and bronze split glands.

Pump is mounted on extended cast iron base to receive motor and is provided with flexible coupling of the pin and bushing type for direct connection to motor.

Pump is of the double suction type and is built in sizes from 2″ to 42″ and for designed heads up to 250′ depending upon size and capacity.

The bearings of the pump are entirely separate from the stuffing boxes which eliminates the possibility of any grit or water in the bearing. The oil reservoirs in the bearing are large, furnishing an ample supply of oil. The stuffing boxes are water sealed so as to insure tight packing without excessive pressure for friction on the revolving shaft.

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Welsh-Anse La Bute (La.)	85
West Columbia	9,000
Miscellaneous	100
Total	167,710

Southwest Fields

The estimate for each field is as folduction for the southwest fields for the same period is placed at 45,950 bbls., an increase of 65 bbls. compared with last week.

The estimated for each field is as follows:

Field—	Gross Bbls.
Luling	21,670
*Mirando	17,300
Somerset	2,000
Calliham	100
Rockdale-Minerva	930
Lockport (Lytton Springs)	3,950
Total	45,950
Grand total for week	213,660
Grand total last week	216,515
Net decrease	2,855

OKLAHOMA FIELDS

(Continued from Page 44)

1 Grayson, C NW SW SW, Section 34-10n-6e, had sand at 4,050-4,149 feet, made 862 bbls. Same company has abandoned the location for No. 1 Mitchell, C SW SW NE, Section 4-10n-7e. Tidal-Osage Oil Co.s No. 1 Noble, C NE NW NW, Section 15-9n-6e, made 10 bbls. from sand at 2,630-45 feet. Amerada Petroleum Corp.'s No. 1 James, C NW NE SE, Section 24-9n-6e, had sand at 4,256-78 feet. Plugged back to 4,270 feet. Shot with 50 quarts from sand at 4,256-70 feet and made 25 bbls. Shaffer Oil and Refining Co.'s No. 4 Jefferson, C NW NE NE, Section 18-9n-8e, shot with 15 and 25 quarts from sand at 3,298-3,325 feet, and made 10 bbls. Producers & Refiners Corp.'s No. 3 Long, C SW SW NE, Section 32-8n-8e, had dry sand at 4,123-30 feet; oil sand at 4,130-33 feet and made 820 bbls.

Hughes County—New Work

Magnolia Petroleum Co.'s No. 1 Carliner, C NW NE SE, Section 27-8n-8e, is drilling at 21 feet. H. G. Newman's No. 1 Long, SE cor. NW, Section 13-8n-9e, is a rig. Robinson and others' No. 3 Carter, C SE SE NW, Section 17-8n-10e, is drilling at 450 feet.

Hughes County—Completions

Josey Oil Co.'s No. 2 Manley, C NE SW NE, Section 22-9n-9e, shut in for 30,000,000 feet of gas at 3,358 feet. Independent Oil & Gas Co.'s No. 2 Harjo, C SW NW SE, Section 26-9n-9e, had sand at 3,335-40 feet, made 245 bbls. Magnolia Petroleum Co.'s No. 1 Garner, NW cor. SW NE, Section 5-7n-8e, made 175 bbls. from sand at 4,180-98 feet. Homa-Okla's No. 4 Carolina, C NE SE NE, Section 6-7n-8e, had dry sand at 4,096-4,112 feet; pay sand at 4,112-16 feet, made 600 bbls.

Caddo County—New Work

English Drilling Co.'s No. 1 Gregory, SE cor. NE SW, Section 31-6n-9w, is drilling at 500 feet.

Caddo County—Completions

Gladstone Oil Co.'s No. 2 Jones, NE cor. SW SE, Section 31-6n-9w, completed on the pump for 60 bbls. from sand at 2,100-2,300 feet. Briscoe & Hall's No. 1 Estes, C SW SW, Section 33-6n-9w, shut in for 10,000,000 feet of gas from sand at 2,100-2,375 feet. Santrock & Abernathy's No. 1 Oswald, C SW NW, Section 23-5n-11w, shut down at 85 feet.

Grady County—New Work

Marland Oil Co. and Joe Ray's No. 1 Woods, NE cor. SE NE, Section 17-3n-5w, is drilling at 41 feet. Carter Oil Co.'s No. 1 Miller, SW cor. Section 22-3n-5w, is a location. Clark-Cowden and Goldeline Oil Co.'s No. 1 Kilgore, SE cor. NW NW, Section 27-3n-5w, is a rig. Briscoe & Hall's No. 1 Nations, SE cor. NW SE, Section 34-3n-5w, is drilling at 625 feet and rigging up rotary for No. 2, NE cor. NW SE. Carter Oil Co.'s No. 1 Nations, NW cor. SE SE, Section 34-3n-5w, is drilling at 28 feet, no water. Garvin Drilling Co. and Feagin's No. 1 Nations, NE cor. SE, Section 34-3n-5w, is a location. Magnolia Petroleum Co.'s No. 3 Mitchell, SE cor. NE NW, Section 34-3n-5w, is a rig.

Grady County—Completions

American Drilling Co.'s No. 2 Chandler, NW cor. NE NE, Section 27-5n-8w, shut in for 34,000,000 feet of gas, with 780 pounds rock pressure, from sand at 2,100-2,360 feet. Todd & Anderson's No. 1 Nations, NE cor. SW SE, Section 34-3n-5w, made 50 bbls. from sand at 1,339 feet.

Garvin County—New Work

Guy Fisher's No. 1 Paxton, NE cor. SW, Section 23-3n-1w, is drilling at 675 feet. Magnolia Petroleum Co.'s No. 1 Vaughn, NW cor. SW NW, Section 12-3n-1e, is drilling at 220 feet. Roxana Petroleum Corp.'s No. 34 McClure, SE cor. NE NE SW, Section 5-4n-3w, is drilling at 300 feet. Wirt Franklin and Marine Oil & Gas Co.'s No. 9 Pruett, NW cor. SE NW, and No. 10, NE cor. NW, Section 3-2n-3w, are both rigs. Gypsy Oil Co.'s No. 4 Lyles, NE cor. SW NE, Section 3-2n-3w, is a rig. Humble Oil & Refining Co.'s No. 2 Richards, NW cor. SW SE, Section 3-2n-3w, is a location. Magnolia Petroleum Corp.'s No. 3 Cox, NE cor. NW SW, Section 15-2n-2w, is a rig. Magnolia Petroleum Co.'s No. 4 Newstadt, SW cor. NW SE, Section 34-1n-3w, is a rig. Magnolia Petroleum Co.'s No. 1 Rickets, SE cor. SW, Section 34-1n-3w, is drilling at 80 feet.

Garvin County—Completions

Texas Pacific Coal & Oil Co.'s No. 3 Derdeyn, NW cor. SE SE, Section 8-1n-3w, completed on the pump for 75 bbls. from sand at 1,648-68 feet. Baker-Strawn Oil Co.'s No. 6-B Dillard, NW cor. NE NW, Section 22-4n-2w, dry and abandoned at 4,435 feet. Gypsy Oil Co.'s No. 2 Lyles, NW cor. SW NE, Section 3-2n-3w, had sand at 2,140-54 feet, made 650 bbls. the first 24 hours; 475 bbls. the second 24 hours; completed for 650 bbls. Iowa Oil & Refining Co.'s No. 2 Watkins, SE cor. NE SE, Section 7-2n-2w, completed for 70 bbls. from sand 1,735-45 feet. Magnolia Petroleum Co.'s No. 1 Goodman, SW cor. NW SW, Section 23-2n-2w, 10-inch casing collapsed; unable to fish out. Abandoned at 1,810 feet. Humble Oil & Refining Co.'s No. 3 Snyder, NW cor. SW SW, Section 34-1n-3w, shut in for 31,000,000 feet of gas from sand at 2,494-2,501 feet.

Stephens County—New Work

Texhoma Oil Corp.'s No. 1 Church Lot, SE cor. Section 26-2n-6w, is a rig. Carter Oil Co. is moving in a rig for No. 1 Graham, SW cor. NW NE, Section 2-2n-5w. Carey Drilling Co.'s No. 2 Plemmons, SE cor. SW NE, Section 24-1n-9w, is drilling at 150 feet. Comanche Oil & Gas Co. is building a rig for No. 1 Wilson, NE cor. NW NE, Section 29-2n-7w. Magnolia Petroleum Co.'s No. 4 Brown, NW cor. NE, Section 3-2n-5w, is drilling at 20 feet. Gant and others are rigging up rotary for No. 2 School land, NE cor. Section 36-1n-9w. John Fossett is cementing 8¼-inch casing at 1,751 feet in No. 1 Franklin, SW cor. NE SE, Section 18-1n-8w. Walker Valley Oil Co. is rigging up No. 4 Schick, CSL SW NE, Section 27-1n-8w. Garvin Drilling Co.'s No. 1 Massey, SW cor. Section 30-1n-8w, is a rig.

Stephens County—Completions

Womack and others' No. 1-A Bristow, SE cor. NW NE, Section 29-2n-7w, is shut in for 3,000,000 feet of gas from sand at 1,055-69 feet. Magnolia Petroleum Co.'s No. 1 Russell, SE cor. Section 25-1n-9w, had sand at 2,183-92 feet, swabbed 40 bbls. the first 14 hours; flowed 28 bbls. the next 12 hours. Completed. Fossett and others' No. 1 Franklin "A", SE cor. NW SE, Section 18-1n-8w, had sand at 1,964-70 feet, made 12 bbls. of 37.4 gravity oil. Harry Hanberry's No. 3 Taliferro, SW cor. Section 27-1n-8w, had sand 2,202-07 feet, flowed 100 bbls. of oil and water the first 24 hours. Completed for 15 bbls. Brown & McAlister's No. 1 Voss, NW cor. NE SW, Section 28-1n-8w, dry and abandoned at 2,375 feet. Magnolia has a dry hole at 2,860 feet in No. 12 Stephens, SW cor. SE NE, Section 29-1n-8w. Beard and others' No. 2 Brigham, NW cor. SW SW, Section 30-1n-8w, had sand 1,986-99 feet, swabbed 50 bbls. the first 24 hours; flowed 25 bbls. the next 12 hours; completed for 40 bbls. Magnolia Petroleum Co.'s No. 5 Glass, NE cor. NW SE, Section 33-1n-8w, is dry at 2,228 feet.

PRODUCTION OF NIGGER CREEK POOL REACHES 19,436 BARRELS

By Special Correspondent

MEXIA, Tex., Aug. 30.—The Nigger Creek Pool of Limestone County now has 22 completed wells to its credit and for the 24 hours ending Monday morning of this week, the field produced 19,436 bbls. The most important completion of the week was the E. L. Smith Oil Co.'s No. 1 Rosson, in the south end of the field which came in making 2,675 bbls. daily. The peculiar feature of this well is that the well immediately offsetting it to the east is evidently a dry hole; it is the Simms Oil Co.'s No. 1 Rosson, and it has been tested dry at a depth of 2,836 feet.

An important note of the field is the increasing intrusion of salt water and b. s. which is mounting, and spreading to include more of the wells. Out of the 22 completed wells, there are 7 wells making water and b. s. with the oil, and the amount varies from 10 per cent which is the lowest reported, to 50 per cent which is the greatest amount shown in any of the wells.

The completion of the E. L. Smith well extends the limits of the pool a half mile south, and the apparent failure of the well immediately east of it once more offers good opportunity for a study of the parallel fault which is thought to exist at Nigger Creek.

In the opinion of many who have made a close study of the "Fault Line country," the peak production of the Nigger Creek Field is not far away. The majority of students place this estimate at 30,000 or 35,000 bbls.

The list of completed wells at present, and the daily average production for the week ending Saturday, August 28, follows:

Transcontinental Oil Co.

No. 1 Rosson	313
No. 2 Rosson	685
No. 3 Rosson	2,405
No. 2-A Rosson	455
No. 5 Rosson	65
No. 1 Rosson	698
No. 1 Cochrun	270
Nos. 1, 2, 3 and 4 Cogdell	5,792
Nos. 1 and 3 Atkins	300
No. 2 Atkins	260

Godley Oil Co.

Nos. 1 and 2 Rosson	1,562

Moss & Keeling

No. 1 Rosson	2,422

Atlantic Oil Producing Co.

No. 1 Rosson	454

Murchison & Fain

No. 1 Bennet	868

E. L. Smith Oil Co.

No. 1 Rosson	2,687

Simms Oil Co.

No. 1 Rosson tested dry at 2,836 feet.

Barkley & Meadows

No. 1 Rosson	160

The Transcontinental Oil Co. has the bulk of the Nigger Creek production. It will be observed that out of a total daily production of 14,000 bbls., this company has over 10,000 bbls. A perusal of the map shows the Transcontinental to be amply protected with acreage on all sides of the production.

The completion of the E. L. Smith well will surely cause the start of several wells adjoining this lease, but the poor showing of the Simms well will cause a note of caution to be instilled, and will limit the number of new operations.

STOCKS OF CRUDE OIL WERE LOWER AUGUST 1

HOUSTON, Tex., Aug. 28.—Notwithstanding the increase in gross production in the Gulf Coast division, stocks of crude show a decrease of 1,278,865 bbls. on August 1 as compared with July 1. The accumulations in steel tanks decreased 608,970 bbls. and those in earthen reservoirs declined 669,895 bbls. Light gravity crudes from the northern fields stored in the Coastal region decreased 285,375 bbls. during the 30-day period. The following table shows the storage in each district in each division of Texas, Louisiana and Arkansas:

COASTAL CRUDE IN STORAGE AUGUST 1

Districts—	August 1 Steel Tnks	August 1 Earthen	July 1 Steel	July 1 Earthen
Sour Lake	1,782,190	2,026,000	1,642,270	1,975,500
Humble	49,700	1,295,000	616,170	2,116,290
West Columbia	1,275,220	1,070,100	1,269,920	1,116,715
Spindletop	1,888,220	.....	1,875,789	.....
Orange	233,460	263,100	225,350	490,660
Hull	49,700	292,060	260,000	51,000
Goose Creek	86,460	73,760	149,660	69,600
Pierce Junction	27,440	29,850	53,210	.....
Saratoga	327,680	.....	187,000	.....
Big Creek	76,000	.....	34,000	.....
Jennings, (La.)	44,000	.....	77,175	.....
South Liberty	32,550	.....	45,240	.....
Vinton, (La.)	207,140	.....	275,320	.....
Markham	10,000	.....	8,500	.....
Batson	3,000	.....	4,000	.....
Damon Mound	10,935	.....	9,450	.....
Barber Hill	880	.....	1,050	.....
Dayton	5,000	.....	250	.....
Anse La Bute (La.)	500	.....	960	.....
Lockport, (La.)	88,530	.....	71,870	.....
Totals	6,198,605	5,149,870	6,807,575	5,819,765
Totals August 1		11,348,475		
Totals July 1		12,627,340		
Decrease		1,278,865		
Stocks in steel storage decreased		608,970		
Stocks earthern storage decreased		669,895		

SOUTHWEST FIELDS

	August 1	July 1
Luling	686,035	666,435
Lockhart	11,385	985
*Mirando	700,000	325,000
Totals	1,397,420	992,420
Increase		405,000

*Estimated.

NORTH AND EAST CENTRAL TEXAS

Fields—	August 1	July 1
Eastland and Stephens	9,361,240	9,145,000
Burkburnett	761,000	394,435
Electra	361,880	396,130
Archer County	128,950	54,715
Vernon	19,950	19,000
Petrolia	31,750	28,210
Nocona	12,980	27,485
Mexia	10,655,540	11,061,695
Powell	3,755,650	4,134,000
Currie	12,980	12,950
Totals	25,101,920	25,273,620
Decrease		171,700

WEST TEXAS

	August 1	July 1
Reagan County	571,780	.....

NORTH LOUISIANA AND ARKANSAS

	August 1	July 1
Smackover (Ark.)	24,885,360	26,152,990
El Dorado	2,561,450	2,965,300
Nevada County	453,000	465,400
Homer (La.)	4,073,835	4,056,020
Haynesville	4,022,980	3,724,000
Crichton, DeSoto, Bull Bayou	5,555,660	4,431,720
Bellevue	217,400	196,700
Cotton Valley	307,000	314,445
Urania	65,340	82,000
Totals	42,142,055	42,388,575
Decrease		246,520

In addition there are approximately 5,545,490 bbls. of miscellaneous stocks in storage in tank farms in the Gulf Coast region compared with 5,830,865 bbls. on July 1, a decrease of 285,375 bbls.

Comparisons with July 1 are as follows:

Company and Place—	August 1	July 1
Humble Oil, Baytown	1,718,900	1,546,000
Humble Oil, Webster	1,033,800	1,245,000
Sinclair Refg., Sinco	398,715	627,435
Republic-Galena, Norseworthy	334,645	314,000
Humble-Galena, Englewood	1,213,290	1,327,276
Humble-Galena, Texas City	282,000	.....
Humble-Galena, Pasadena	243,660	291,625
Gulf Prod., Lynchburg	84,125	.....
Gulf Prod., Crosby	145,830	.....
Gulf Prod., Almeda	89,600	.....

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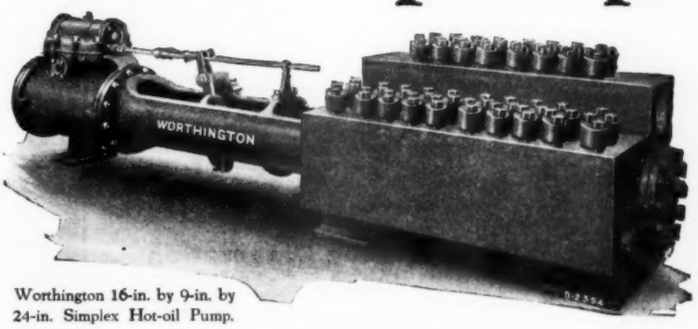
Hot-oil pumps



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LATERAL DRIFT OF HOLES IN DEEP DRILLING SHOWN BY NEW APPARATUS

By F. M. Smith
Geologist, Pan American Petroleum Co. of California

The oil industry is a highly specialized branch of mining, and the development of new tools is constantly marking its progress. Survey apparatus developed by Alexander Anderson is probably the most highly technical tool which has ever been successfully run in an oil well. This apparatus itself, however, could not have been made a success without an oil well in which to run it. The Pan American Petroleum Co. of California paved the way for oil well surveying in California when, through the courtesy of its president, J. C. Anderson, an oil well was furnished for the pioneer run.

The inventor, Mr. Anderson, has perfected an automatic means of recording by photography at successive stations the inclination from the vertical of an oil well, both in direction and amount. The survey is made in a round trip with the drill pipe at the rate of 1,000 feet in one hour and ten minutes. Readings are taken at each stand length, and station distances are chained in on the drill pipe.

The accuracy with which angle data are recorded can be satisfactorily demonstrated through settings in a special frame designed for this purpose. These settings are made, and the inventor takes the instrument as if delivered from a well and interprets them. Interpretations will average within about seven minutes of being correct for vertical angles and within about 30 minutes of azimuth. In addition, the instrument is self-checking in that all recorded points must fall on a curve when plotted. Thus it can be seen that Mr. Anderson does not ask us to accept his apparatus on faith.

These notes describe well conditions under which our company made the first oil well surveys in California. The wells which are described are three in number, and the surveys will be designated as Cases 1, 2 and 3. Being familiar with well conditions, it is not difficult to draw conclusions as to benefits upon a study of the traverses, which are tri-dimensional and are presented in plan and in elevation.

Case No. 1.—Case No. 1 was an edge location in proven territory. Indeed, it was so much of an edge location that scouts and their company geologists commonly predicted that we would get nothing but edge water. The edge location of this well is important, when we consider possible returns to the company from survey data.

At the location in question a 15-inch rotary hole was drilled to a depth of 4,756 feet through 597 feet of 15½-inch conductor casing. Coring was started at a depth of about 3,200 feet, and 71 cores were taken before the bottom at 4,756 feet was reached. With the bottom at 4,756 feet, the hole was bridged with cement from 3,250 to 3,135 feet, and upper water was shut off by cementing 10-inch casing at 2,980 feet, which was just above the correlation for the top oil. After testing this horizon sufficiently to prove to our satisfaction that there

Table 1—Data of Survey of Rotary Drill Hole in Case 2

A Reading No.	B Depth Where Reading Was Taken, Feet	C Slope of Hole From Vertica	D Direction of Slope of Hole	E Lengths of Stands Drill Pipe, Feet	F Deviation per Stand in Feet
1	79.8	0 00	.....	79.8	0.00
2	167.9	0 00	.....	88.1	0.00
3	256.0	4° 00′	N. 36° 39′ E.	88.1	6.15
4	340.9	7° 50′	N. 43° 38′ E.	84.9	11.57
5	425.8	5° 50′	N. 72° 29′ E.	84.9	8.62
6	514.1	5° 00′	N. 88° 09′ E.	88.3	7.70
7	602.4	4° 50′	N. 74° 43′ E.	88.3	7.44
7½	.....	5° 00′	.....	....	...
8	690.3	4° 25′	N. 71° 54′ E.	87.9	6.76
8½	.....	4° 25′	.....	....	...
9	775.2	5° 00′	N. 87° 15′ E.	84.9	7.40
9½	.....	5° 25′	.....	....	...
10	857.1	6° 00′	S. 87° 52′ E.	81.9	8.56
10½	.....	5° 50′	.....	....	...
11	939.0	4° 40′	S. 78° 55′ E.	81.9	6.66
11½	.....	4° 50′	.....	....	...
12	1,020.9	4° 00′	N. 78° 34′ E.	81.9	5.71
13	1,106.4	4° 20′	S. 53° 53′ E.	85.5	6.46
14	1,191.9	4° 00′	S. 73° 06′ E.	85.5	5.96
15	1,277.4	4° 10′	N. 88° 53′ E.	85.5	6.21
16	1,362.9	3° 45′	S. 75° 06′ E.	85.5	5.59
17	1,448.4	3° 05′	S. 81° 41′ E.	85.5	4.60
18	1,533.9	3° 35′	N. 84° 52′ E.	85.5	5.34
19	1,619.4	3° 40′	N. 83° 11′ E.	85.5	5.47
20	1,704.9	3° 50′	N. 76° 08′ E.	85.5	5.72
21	1,790.4	4° 00′	N. 70° 01′ E.	85.5	5.96
22	1,875.9	3° 00′	N. 59° 53′ E.	85.5	4.47
23	1,961.4	2° 40′	N. 68° 36′ E.	85.5	3.98
24	2,046.9	3° 00′	N. 83° 57′ E.	85.5	4.47
25	2,132.4	3° 30′	S. 77° 28′ E.	85.5	5.22
26	2,217.9	3° 30′	N. 44° 33′ E.	85.5	5.22

Table 2—Data of Survey of Underground Course of Rotary Drill Hole in Case 3

A Reading No. (Stands of Pipe)	B Measured Depth	C Actual Vertical Depth	D Direction of Inclination of Hole	E Inclination of Hole from Vertical	F Inclination Shown as Feet per 100
1	86.5	86.5	.....	0 00	...
2	173.0	173.0	.....	0 00	...
3	259.5	259.5	.....	0 00	...
4	346.0	346.0	S. 28° 21′W.	0° 34′	0.99
5	432.5	432.48	S. 9° 45′W.	1° 20′	3.32
6	519.0	518 90	S. 2° 37′ E.	2° 31′	4.39
7	605.5	605.30	S. 8° 14′ E.	2° 41′	4.68
8	692.0	691.65	S. 8° 21′ E.	3° 22′	5.88
9	778.5	777.97	S. 13° — E.	3° 29′	6.37
10	865.0	864.22	S. 8° 03′ E.	4° 19′	7.51
11	951.5	950.47	S. 0° 57′W.	4° 23′	7.65
12	1,038.0	1,036.68	S. 2° 01′W.	4° 43′	8.22
13	1,124.5	1,122.92	S. 0° 57′ E.	4° 25′	7.69
14	1,211.0	1,209.16	S. 1° 44′W.	4° 25′	7.70
15	1,297.5	1,295.46	S. 1° 16′ E.	3° 55′	6.82
16	1,384.0	1,381.80	S. 0° 37′W.	3° 28′	6.03
17	1,470.5	1,468.11	S. 3° 45′ E.	3° 45′	6.53
18	1,557.0	1,554.41	S. 13° 52′W.	3° 52′	6.75
19	1,643.5	1,640.66	S. 17° 56′W.	4° 20′	7.55
20	1,730.0	1,726.92	S. 15° 18′W.	4° 15′	7.41
21	1,816.5	1,813.21	S. 7° 25′W.	4° 01′	6.99
22	1,903.0	1,899.47	S. 9° 03′W.	4° 18′	7.50
23	1,989.5	1,985.69	S. 9° 17′W.	4° 38′	8.09
24	2,076.0	2,071.85	S. 8° 37′W.	5° 05′	8.88
25	2,162.5	2,157.91	S. 6° 24′W.	5° 46′	10.06
26	2,249.0	2,244.02	S. 10° 05′W.	5° 27′	9.50
27	2,335.5	2,330.13	S. 5° 46′W.	5° 26′	9.45
28	2,422.0	2,416.15	S. 1° 38′W.	6° 01′	10.48
29	2,508.5	2,502.28	S. 4° 45′W.	5° 17′	9.21
30	2,595.0	2,588.30	S. 12° 48W′.	6° 00′	10.44
31	2,681.5	2,674.28	S. 14° 23′W.	6° 16′	10.92
32	2,768.0	2,760.37	S. 20° 06′W.	5° 25′	9.72
33	2,854.5	2,846.37	S. 22° 23′W.	6° 11′	10.77
34	2,941.0	2,932.41	S. 24° 52′W.	5° 54′	10.28
35	3,027.5	3,018.37	S. 26° 08′W.	6° 24′	11.16
36	3,114.0	3,104.12	S. 27° 43′W.	7° 33′	13.12
37	3,200.5	3,189.70	S. 27° 08′W.	8° 23′	14.57
38	3,281.0	3,275.03	S. 23° 38′W.	9° 27′	16.40
39	3,373.5	3,360.35	S. 25° 56′W.	9° 28′	16.44
40	3,460.0	3,445.51	S. 21° 42′W.	10° 06′	17.54

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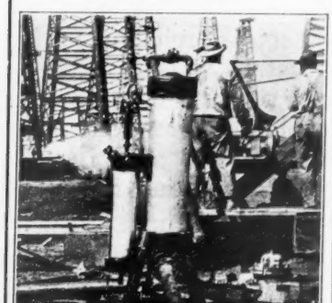

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was a small pumping well just below the 10-inch water string, it was decided to test the second horizon. The hole was cleaned out to a depth of 3,750 feet and bridged with cement from 3,750 feet back up to 3,460 feet, where a 6¼-inch water string was cemented to shut off an intermediate water. The hole was then cleaned out for a short distance below the 6¼-inch water string, and sufficient tests were made to prove that the second zone was wet and apparently no production was possible at this horizon.

Survey Apparatus Lowered on Sand Line

Such was the condition of the well when the pioneer run was made with the Anderson survey apparatus. Up to a late hour it was expected to run the survey apparatus in the manner for which it was designed—that is, on drill pipe. Inadvertently the stands of drill pipe in the derrick were laid down and were not available for the run. The surveyor rose to the occasion, and the survey apparatus went into the hole on the end of a sand line.

In Mr. Anderson's sand line method a set of expansible steel spring guides is run both above and below the instrument in its shell to prevent rotation in azimuth. A practically frictionless swivel connection is made from the end of the sand line to the instrument container. The survey went off on a time schedule, 13 stations being chained in on the sand line.

The stations were at a distance of one string over the derrick, or 242 feet apart, which put us 3,142 feet into the hole. Thirteen vertical angles were recorded, varying from zero to a maximum of 10 degrees. The film was quite distinct, and vertical angles ranging up to 10 degrees indicated quite clearly to what extent a rotary hole might drift from a pumb line. The total surveyed drift was 142 feet at a depth of 3,142 feet.

The chief return to the company from a survey of Case 1 has to do with its edge location. The location stake was driven on the surface at what appeared to be the very outside possibility for production. Tests on the upper zone indicated a small pumper, while the second horizon gave water. Obviously, if rotary holes drifted as suspected, the surveyed location of the intersection of the hole with the oil zones was a matter of the gravest importance.

The survey established the fact that the hole had drifted extensively. As subsequent events developed, the fact that the hole drifted made no difference in the handling of this particular well. However, there is an undrilled location directly along the strike and adjacent to Case 1 on the same lease. When the time comes to drill this location, the stake can be driven with much more assurance and to better advantage because of the knowledge that there was an extensive drift in Case 1.

Well Deep in Case No. 2

Case No. 2—Case No. 2 was a wildcat about a mile ahead of production in a rapidly developing field in the Los Angeles Basin. One of the chief characteristics of this particular field was the extreme depth at which production was sought. The extreme depth of the wells in this field is important when we consider the possible returns to the company.

Drillers maintain that whether or not a hole is crooked will be one of the chief factors in deciding whether a rotary can reach a depth of 5,000 feet or more. The engineer surveyor holds that all deep holes deflect from vertical and that the determining factor in deep drilling is the extent to which the holes are crooked.

At the location in question at 24-inch rotary hole was drilled to 695 feet in three days, and 18-inch Hercules stovepipe casing was cemented for a conductor. The formation drilled through was comparatively hard, and the fact that it took only three days is mentioned, as it is believed to be important in view of subsequent developments. The orders to the drillers were "to set her on the bottom and twist her off."

After cementing the 18-inch stovepipe at 695 feet the hole was drilled ahead to 4,397 feet, using fishtail, disc and rock bits and coring at 20-foot intervals below 4,000 feet. The formation drilled through below 2,100 feet was characterized by hard Fernando sandstones, and the drilling at all times was "hard digging." That the hole was crowded is evidenced by the occurrence of 11 "twist-offs" above a depth of 4,000 feet.

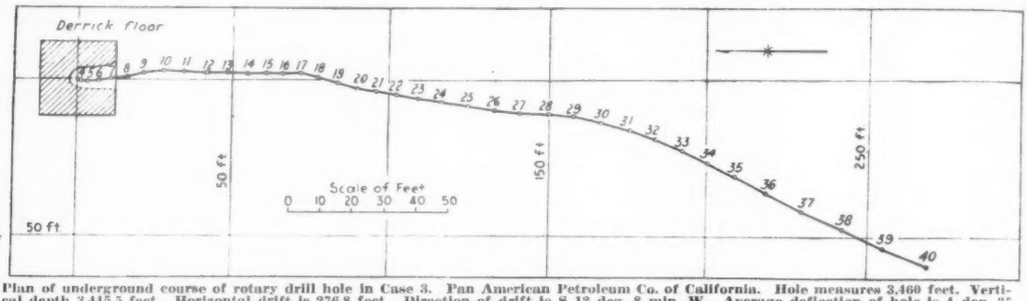
When a depth of 4,397 feet was reached the 18-inch stovepipe conductor "went bad"—that is, it was worn to such an extent that it no longer functioned satisfactorily, and considerable trouble was caused by the drill pipe hanging up on running in and out of the hole. The particular point at which the bad conductor pipe gave the most trouble was at a depth of 246 feet. This fact is evidenced by a number of notations in the daily drilling reports to the effect that "the overshot stopped at 246 feet," "drill pipe hangs up at 246 feet," and the like. This is of interest when examining the survey, as the reader will note that the most pronounced crook shown by the survey is at 246 feet.

The bad condition of the 18-inch stovepipe was met by a decision to put in further conductor. Regular 15½-inch screw pipe would not go, and it was necessary to secure a special size in 14-inch Hercules stovepipe. Before running the 14-inch stovepipe the hole was bridged with a cement plug 720 feet up to 700 feet. This was probably unnecessary, but it was done and it shaped the future drilling history of the well.

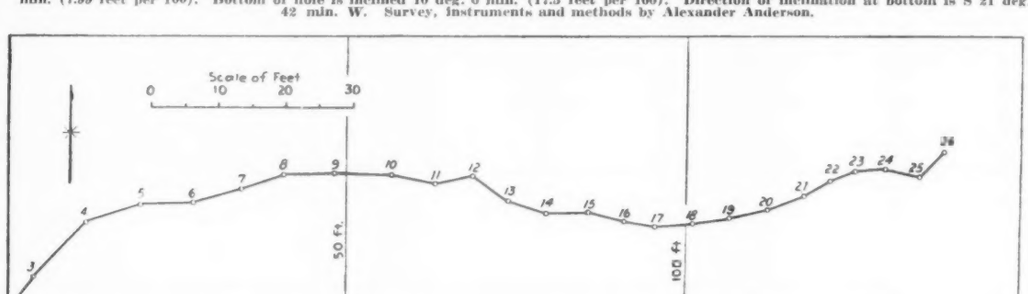
Hole Lost at 720 Feet

The new 14-inch conductor was landed on the cement bridge at 700 feet and cemented with 250 sacks of cement. A few days later the cement plug was drilled out, and the bit, on reaching 720 feet, instead of dropping through into the old hole, continued to meet with resistance. Drilling continued to about 850 feet before the drillers realized their predicament. They were making new hole and some 4,400 feet of the old hole was just out of their reach.

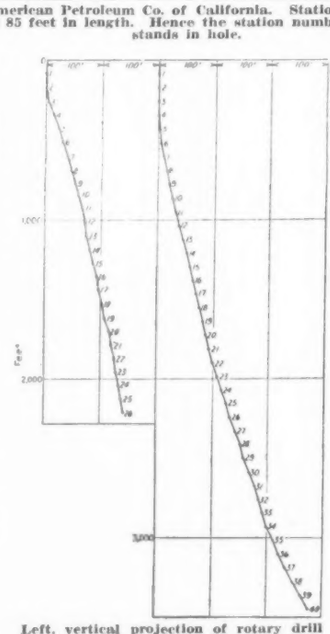
Following this, a period of about three weeks was taken up by attempts to get back into the old hole, efforts which grew more desperate as time progressed and



Plan of underground course of rotary drill hole in Case 3. Pan American Petroleum Co. of California. Hole measures 3,460 feet. Vertical depth 3,445.5 feet. Horizontal drift is 276.8 feet. Direction of drift is S 12 deg. 8 min. W. Average deflection of hole is 4 deg. 35 min. (7.99 feet per 100). Bottom of hole is inclined 10 deg. 6 min. (17.5 feet per 100). Direction of inclination at bottom is S 21 deg. 42 min. W. Survey, instruments and methods by Alexander Anderson.



Plan of rotary drill hole in Case 2. Pan American Petroleum Co. of California. Stations were taken one stand's length apart. The stands of drill pipe average between 80 and 85 feet in length. Hence the station numbers on plans and sections show the number of stands in hole.



Left, vertical projection of rotary drill hole in Case 2, Pan American Petroleum Co. of California. Right, vertical projection of rotary drill hole in Case 3.

their futility was borne in on all concerned. The 4,400 feet of lost hole represented a loss of three months' time in a race with a competing company for flush production, in addition to an investment of several thousand dollars in drilling costs.

Every procedure which could be thought of and was at all feasible was tried. The second bore of the double-barreled hole was drilled to depths below 2,000 feet in the hope of dropping into the first bore. The hole was thoroughly reamed and shot at the estimated point of divergence and slightly lower, in the hope of breaking the double bore together.

A twisted bit on the end of a bent "single" which would give a sweeping radius measured in feet when rapidly rotated was run for days at levels just above and below the entrance to the old bore. The second bore was plugged with cement and drilled out again on three separate occasions. On drilling out the cement, a 10-inch guide would be welded over the drill collar and lower portion of the 5-inch drill pipe to insure a straight course below the 14-inch conductor with its shoe at 700 feet. None of the attempts to retrieve produced results.

The situation was one which might well bring those in charge face to face with the desirability of knowing just where their hole went. In this particular case there was a handicap in not knowing the course of the lost hole if a survey of the second bore were made. In spite of this handicap a survey of the second bore was decided on, and Anderson's apparatus was run to a depth of 2,210 feet.

After surveying the hole we had definite evidence that the second bore was very straight in the region where the bit had gone astray. The fact that there were not any outstanding crooks in the critical region just below 700 feet as shown by the survey which was run in the second bore drove home the conclusion that to have such a radical divergence the first hole must have been badly crooked. This conclusion seems in accordance with what was to be expected when we review the manner of drilling. The bit had been crowded ahead with all possible speed while drilling in hard formation.

Had the survey shown a suspicious-looking crook at a critical level it might have been assumed that the first hole was comparatively straight and that the divergence was due to a crook in the second hole. In such an event the lost hole might have been regained by plugging the crook with cement and then drilling out the cement with cable tools. As it was, the survey held forth no hope that the hole which was lost would be found. Indeed, when we looked at the extent of the drift at 2,210 feet—namely, a departure of 234 feet—it appeared that by drilling ahead it was about as likely that we would drop into our competitor's hole as our own. After the survey but a few half-hearted attempts were made to regain the hole which was lost, and drilling was continued in the second bore to a depth of 3,945 feet.

At 2,210 feet the survey had shown us that in so far as a straight hole was concerned we were making a very poor start on a 5,000-foot quest. At 3,945 feet the drillers recognized from the derrick floor, to use their own expression, that the hole was as crooked as a dog's hind leg.

Difficulties in a Crooked Rotary Hole

A crooked rotary hole is like an overheated automobile engine. The engine may function perfectly in every respect until overheated. Then numerous kindred troubles develop and overwhelm you. With the rotary, drilling goes fine in formation hard or soft as long as the hole is straight. Try to dig in a hole which has departed from the vertical in such a way that the driller can notice its crookedness. Your troubles will multiply and conditions get worse with depth. You will have cavey formation which will call for additional casing. When cased the conductor will wear out and give more trouble than would exist if it were not in the hole. The drill pipe will twist off and the fish will lie in difficult positions. In fact, a well with a poor start will give trouble through to the end.

As a sequel to the history of the well which was surveyed it may be noted with interest that when 3,945 feet was reached the location was moved to a slightly more favorable position. Here a new well was spudded and word went out from the president that this well would be drilled right it he had to do it himself.

Considerable time was taken to set the conductor casing, and all efforts were concentrated upon a straight hole. The initial crook which Case No. 2 developed at 246 feet was avoided. Therefore the 15½-inch conductor pipe up to the time of quitting the hole at 6,120 feet did not wear so as to give trouble. The well was conspicuous for its absence of mechanical difficulties and broke several California drilling records. The only expenditure for casing in 6,120 feet of hole was for the original 750 feet of 15½-inch conductor.

The reader will agree without question that there were some practical advantages to be derived from the survey in the handling of Case No. 2. However, a statement that the deep test which followed Case No. 2 owed its success in hanging up records to the survey might be challenged. Nevertheless, the fact stands out that crooks and an excessive drift of the hole were brought to light and exposed by the survey. Immediately thereafter one of the very deep holes of the state was drilled with a minimum of trouble through concentrating on a policy of digging as straight as a rotary could dig. The same crews, the same equipment, and the same formation were present on both the success and failure.

Scant Data for Case No. 3

Case No. 3.—Case No. 3 was a wildcat which was drilled on data which was scant. Surface dips in three directions could be recognized, drilling costs were low, acreage was available, and a regional characteristic was the presence of gusher production at shallow depths where structure was proven. Possibility of a structure justified a test, and survey data in a hole which had not yet reached expensive proportions might either condemn or encourage the prospect.

Case No. 3 was spudded and drilled to 3,500 feet, taking cores at regular 20-foot intervals below 500 feet. No showings of any kind had been encountered in the hole. Had the well come up to the regional description mentioned above, and assuming it was on structure, oil should have been present anywhere between 1,200 and 2,000 feet. The cores did show, however, numerous well-defined bedding planes which were at an apparent inclination of about 20 degrees with the axis of the cores.

The direction of dip as shown by the cores was a matter of importance. Pulling an oriented core was carefully considered. It appeared that in order to pull an oriented core and intelligently interpret the bedding planes the inclination of the hole must be known in direction and amount. On first reflection it will appear that the effect of inclination of the hole from vertical on dip would be such as either to increase or diminish the apparent dip according as the hole inclined with or against the strata. In the case of relatively flat dips even a reversal of direction might be involved.

However, the problem is more complex. By reflecting a little it will be realized that in dealing with apparent dips as measured in a core we must apply the principles of descriptive geometry. The problem is one where we have given the intersection of a cylinder inclined at several degrees from the vertical with an inclined plane making a known angle of about 70 degrees, in this case with the axis of the cylinder. Revolve the cylinder in such a way that its axis will generate a cone with the apex in the plane intersection.

It will be seen that a serious error of direction is introduced if the false assumption is made that the axis is vertical and the dip, or angle of maximum declivity, is measured accordingly in the plane of the interesection. The error will be reflected in recording the strike and the final calculated bearing based on false premises may easily be off as much as 45 degrees.

This was first pointed out with reference to oil wells by Mr. Anderson, and it is only a matter of mathematics to prove that to draw intelligent conclusions from an oriented core it is necessary to know the inclination of the hole from vertical in direction and amount.

The taking of an oriented core in Case No. 3, to be followed by a survey, was decided upon by Dana Hogan after consultation with the head of the company. The probable errors due to twist in the drill pipe when cutting the core and turning of the core on rotation planes within itself were fully realized. Errors due to the latter cause could be readily recognized in examining the core, and at any rate the results obtained would be relied upon only to the extent to which they checked with other data. Besides, some information about the direction of dip of the strata would probably be obtained from the direction of drift of the hole as shown by the survey.

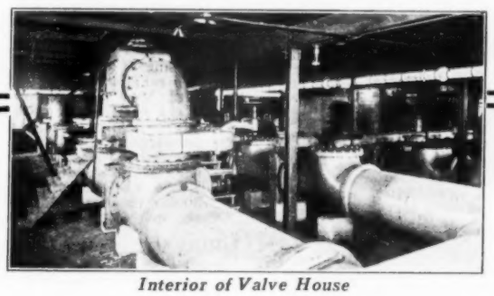
A 2-foot core was carefully cut with an Elliott barrel and pulled, preserving its orientation by Mr. Anderson's methods. We were fortunate to find that the oriented core showed well-defined dips at the very bottom and below any apparent rotation plane. Twenty feet of hole was drilled ahead of the level where the core was cut and the survey apparatus run to the coring depth. The extent of the drift is shown by the blue prints. We were pleased to find that the direction of dip as taken from the core and corrected for inclination of the hole agreed with our preconceived ideas from other data.

(Continued on Page 127)

LEGAL

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION, SEPTEMBER 30, 1926, BY UNITED STATES GOVERNMENT

September 30, 1926, at Pawhuska, Oklahoma, about 35,580 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,615 oil wells producing from 1 barrel to 1,000 barrels each, the total daily production for June, 1926, being about 70,000 barrels; also, there are about 135 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for 50 cents each, also logs of producing oil or gas wells for 25 cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.



Interior of Valve House

Since Gas was first used, pipes and fittings of Cast Iron have served the Industry with complete satisfaction

Standard fittings have simplified the solution of even the most complicated construction problems.

The many underground lines in city streets make it necessary for pipe lines to detour often.

In the valve house, too, the numerous piping difficulties are admirably solved with standardized pipe and fittings.

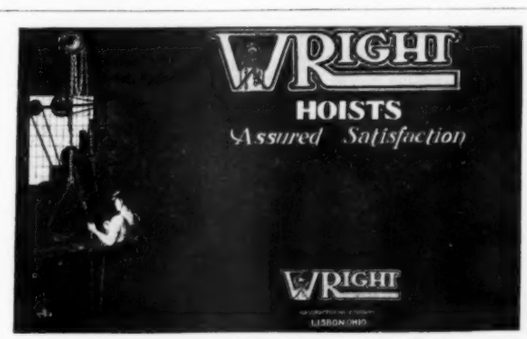
Write for copy of the latest A. G. A. Specifications

United States Cast Iron Pipe and Foundry Company

SALES OFFICES

Philadelphia, Chicago, Birmingham, Buffalo, Cleveland, New York, San Francisco, Pittsburgh, Dallas, Kansas City, Minneapolis

General Offices: Burlington, New Jersey



35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

LEASES, royalties and fee. Hudspeth County, Texas, leases 20 cents per acre up, fee $2.50 per acre up. Box 158, Sierra Blanca, Tex.

SEE
C. O. Walling
for large blocks
to drill for oil and gas.
I sell ranch land also.
32 North Chadbourne St.,
Phone 341
San Angelo, Texas.

OIL AND GAS LEASES—Also royalties, Kay County, Oklahoma, the richest oil country on earth. William C. Uphoff, Blackwell, Okla.

FOR SALE—10 acres Clark County, Arkansas, $30. Write Box B-473, The Oil and Gas Journal, Tulsa, Okla.

MCLAIN COUNTY, Oklahoma, oil leases; very reasonable. My own land. Joe P. Crawford, Oklahoma City, Okla.

FOR SALE—7,500 acres oil and gas leases. Wildcat in Jefferson and Harrison Counties, Ohio, around a well to be drilled a location from the line. For 75 cents per acre. Address W. L. Kinsey, Bridgeport, Ohio.

I HAVE LEASES, 160-acre tracts up, in Lipscomb and Hemphill Counties where the big play is now on at $2 to $3 per acre. New leases made direct from owner of land to you. Dr. W. R. German, Canadian, Texas.

OMER McKOWN

Dealer in Leases and Royalty,
Maud Territory

MAUD, OKLAHOMA.

SOUTHWEST TEXAS—WINKLER, LOVING, REEVES, WARD, PECOS, CULBERSON COUNTIES
Drilling blocks. Leases. Royalties.
Ranches in fee.
H. F. Anthony, Pecos, Texas.

WE OWN the land. Will block 1,000 acres or more for producers, adjoining and in Section 6, Township 4n, Range 1e, 4½ miles from reliable development. Good structure. A. S. Peacock, Paoli, Okla.

SHALLOW PRODUCTION
Would like to hear from parties wishing to invest in settled production, ten years old. Shallow wells in Allen County, Kentucky. Address Box No. 94, Scottsville, Ky.

SOUTHEAST NEW MEXICO
Can furnish practically proven leases in Artesia Field, Eddy County. Also other tracts in Eddy, Chaves and Lea Counties. Particulars on request.
H. T. ORCUTT
1114 Colcord Bldg., Oklahoma City, Okla.

BETWEEN 8,000 and 10,000 acres of oil and gas leases in the eastern part of Putnam and the western part of Overton Counties, Tennessee; Tennessee Central Railroad running through the property. One-eighths royalty. Ten cents rental clause. Near where good gas wells were struck years ago. Want at least one well drilled soon. Reasonable terms to good solvent concerns. Those without reference need not write. Address E. W. Christian, Monterey, Tenn.

2,500-ACRE block oil and gas leases, Stephens County; running 5 years; no drilling obligations; $3.50 acre. Cylde Miller, Duncan, Okla.

HAVE 18,000 acres oil and gas leases solidly blocked for test 4,500 feet; 7-year leases, in T. 29, R. 20W, Woods County, Okla.; rentals $1 per acre. Begin 12 months after drilling contract signed. This acreage about 30 miles southwest of well drilling by Vickers Petroleum Co. and George Miller in Barker County, Kansas.

Also 12,000 acres, 5-year leases, for test 4,000 ft., T. 27, R. 19W, these blocks will stand the closest inspection. Come, take a look, all north of Cimarron River. W. A. Clark, Box 267, Alva, Okla.

LEASES—PRODUCTION

WRITE for my state of Texas oil map free. Oil leases exclusively. Reference, Mercantile Agencies.
C. W. WEBSTER
W. T. Waggoner Bldg.
Fort Worth, Tex.

TEN-YEAR oil leases. No rentals. Crockett County, Texas. Send for true map. Paul Konz, Box 291, Fort Worth, Tex.

HAVE BUYERS for flush or settled production in Oklahoma and north Texas. Vern R. Hartman, P. O. Box 442, Dallas, Tex.

PRODUCTION WANTED
IN
TEXAS, OKLAHOMA OR KANSAS

We are interested in the purchasing of good, settled production ranging from 50 to 500 bbls. net. Must be good, proven territory ranging from 800 to 2,000 feet in depth and room for more development.
Complete description, price and detailed information must accompany offerings and subject to 30-day investingation. We have the spot cash to deal with.

OHIO MID-CITIES CORPORATION
328 Press Building
Binghamton, New York

FOR SALE or lease—300 acres tested on all sides, Bartlesville sand. John McQuiston, Route 7, Independence, Kans.

AMARILLO PANHANDLE OIL FIELD
Underwriter Brainard Ranch oil and gas leases, 25,000 acres in Hutchinson County. Hutchinson County is the major producing area. New 5-year leases from 20 acres to 160 acres. Bought right, can sell at reasonable price per acre. Write for map and prices. I have handled, as underwriter, over 60,000 acres in the field on which over 80 wells are now drilling or producing. Ed R. Mayer, Amarillo Hotel Bldg., P. O. Box 1186, Amarillo, Tex.

FOR SALE—Leases and settled production in Warren, Allen and Barren Counties, also drilling propositions in shallow territory. Warren and Allen Counties oil is now posted at $2.10 to $2.40 per bbl. and Barren County at $2.85. W. P. Harley, Bowling Green, Ky.

320 ACRES FOR LEASE
Noble County, Oklahoma, north half Section 14, Range 2E, 1 west, 1,000 feet from production. Box B-461, The Oil and Gas Journal, Tulsa, Okla.

KEVIN-SUNBURST OIL LEASES
Eighty-acre commercial lease with no drilling requirements, 1½ miles from lands recently purchased by Julian Oil Co. of California. Producing oil wells on all sides of this lease. Price $16,000.

One hundred sixty acres land in fee with 87½ per cent of oil, no drilling requirements, close to producing acreage well located geologically, SW¼ of Section 26, Township 34, Range 2w. Price $8,000.

FRANK T. RICKARD
435 Ford Bldg. Great Falls, Mont.

M. ELDER & COMPANY

Dealers in
Leases, Royalties and Productions,
Drilling Contracts, Wildcat Blocks.
Laredo District
HAMILTON HOTEL, LAREDO, TEX.

OIL LEASES for sale or drilling contract; NW¼ 24-27-11; SE¼ 19-22-9; W½ 33-29-12, Osage County, Oklahoma. A. D. Simon, Box 163, Caney, Kans.

LEASES—PRODUCTION

HAVE SEVERAL pieces of flush and settled production for sale in Oklahoma and Wichita Falls districts. Prices reasonable and terms can be arranged if necessary. P. O. Box 1144, Dallas, Tex.

TEXAS PANHANDLE EXTENSION, UNION COUNTY, NEW MEXICO.
Offers opportunities to make big money. New 5-year leases, 50c to $1 yearly rental. New state 5-year leases 5c to 15c rental. Many wells drilling in territory. 40 acres to 5,000 acres. Price $1 to $2.50 acre. Prices advancing rapidly. Two drilling blocks on structure. James R. Thomas, leases and royalties, Oklahoma City, Okla.

NEW MEXICO

Lea County Acreage
E. T. Buckley
403 Sunshine Bldg.,
Albuquerque, N. M.

ROYALTIES—PRODUCTION

WANTED—Producing royalties Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

TEXAS PANHANDLE

Royalties in large or small units to suit any size buyer in fastest growing and most rapid developing oil field in middle west. Write for list of offerings. B. O. Taylor, 306 Blackburn Bldg., Amarillo, Tex.

ROYALTIES—Can secure Arkansas royalties on structure in line with production where there is most certain to be much activity in the near future. Get in before the rush. Correspondence invited. Harry Spooner, Stephens, Ark.

WILL BUY royalty or leases for responsible parties or oil companies on small commission. One trial and you will be our regular client. Have regular lease man and know the game.
FREEMAN OIL CO.
Pauls Valley, Garvin County, Oklahoma.

KEVIN-SUNBURST HOLDING CORPORATION
Shelby, Montana
We handle royalties and leases in the best areas in the Kevin-Sunburst Field. Quick action will secure excellent leases with liberal terms. All data on field gladly furnished upon request.

$1,000 WILL BUY one-fourth interest in mineral rights on 200 acres Stephens County, Oklahoma. P. O. Box 806, Duncan, Okla.

FOR SALE—Sumner County, Kansas, royalty 1/32 under drilling well. NW¼ Section 25-T.32-R.1e. Southwest of Miller well Oxford district. Will divide it up, write 304 Orpheum Bldg., Wichita, Kans., Phone, Market 3871.

PRODUCING ROYALTIES WANTED
IN
OKLAHOMA OR KANSAS

Settled production preferred. Complete description, price and detailed information must accompany offering.

The purchase or consolidation of other royalty companies would be considered up to $1,000,000. But must stand rigid investigation. We have spot cash to deal with.

OHIO MID-CITIES CORPORATION
328 Press Building
Binghamton, New York.

KEVIN SUNBURST OIL ROYALTIES
One per cent land owner's royalty in 320 acres N½ of Section 32, Township 35n, Range 1w, known as "56" Petroleum Co. Caine lease; 16 producing wells producing around 1,200 bbls. oil per day; pumped part time; price $12,000.
FRANK T. RICKARD
435 Ford Bldg. Great Falls, Mont.

ROYALTIES—PRODUCTION

ONE-THIRTY-SECOND royalty on Marland coredrilled blocks in Kansas; priced right. Write 304 Orpheum Bldg., Wichita, Kans.

ROYALTIES, Leases—West Texas—for sale. Green & Hines, 712 Alexander Bldg., Abilene, Tex.

FOR SALE—EQUIPMENT

FOR SALE—Hart-Parr tractor, 30, 60 H. P., good condition; price reasonable. A. G. Gilliat, Boerne, Tex.

FOR SALE—Two No. 19 and one No. 25 Armstrong and one No. 38 Star drilling machines with complete sets of tools. Rigs are in good running condition. W. P. Harley, Bowling Green, Ky.

FOR SALE

Eight steel storage tanks 8 feet diameter by 40 feet long; located at Little Rock, Ark. Price $575 each f.o.b. cars.

Two No. 12 Sweetland filter presses. Phone, write or wire.
CONSOLIDATED PRODUCTS COMPANY, Inc.
15 Park Row New York City

MACHINE TOOLS—Quick sale, three "Lodge & Shipley" lathes; "Beaudry" power hammer, shaper, radial drill, Oxweld generator, pipe machines, large planer, bolt threader, emery stand. Seddon Murphy Machine Co., Houston, Tex.

E M V E E

SIGHT FLOW SEPARATOR

Permits of carrying back pressure on pumping wells, now conceded to be very desirable.

Saves every foot of gas for use on the lease.

Automatically separates oil, gas and water.

Absolutely holds the gravity of the crude.

Reduces amount of B. S. to the minimum.

Eliminates evaporation.

You can see the wells pump.

Positively fool proof.

Sizes 16 bbl., 25, 50, 100 and 130 Bbl.

Send for descriptive matter.

M. & V. TANK COMPANY
Wichita Falls, Texas

SAVE $4,000
First-class rig, fully equipped. Good engine, 40 horse power boiler; 1,500 feet first-class drill stem. Rig used in four wells. Will sell for one-third its value. Will consider taking small cash payment and balance in notes to suit convenience. Immediate response necessary. Address Mr. Biessel, Sour Lake, Tex.

FOR SALE

1—De LaVergne 65-h.p. Type D.H. Oil Engine.
1—Gould Centrifugal Pump, 1760 G.P.M.
8—14 ft. by 30 ft. fire stills, never been fired.
2—De La Val Centrifugal Separators.
Box B-418, The Oil and Gas Journal, Tulsa, Okla.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

MANUFACTURING MACHINISTS
Screw machine products, sucker-rod fittings, swivels—anything made from bar stock. Heat treating of metals. Contract manufacturing. Send B/P or samples for quotations. Accurate work, prompt delivery.
TURNER-WARNER SCREW CO.
1226-34 Lydia Avenue
Kansas City, Mo.

REFINERY equipment for sale. Two boilers, condenser boxes, towers, stills. Phone 136, W. Bogart, Burkburnett, Tex. Box 152.

CRAGO CUT GEARS
Worthy of your confidence. General machine work. 1416 Walnut, Kansas City, Mo. Phone Harrison 7660.

PUMPS

New and Slightly Used
We have the following refinery pumps for sale at a great saving. Some are new—the balance used but a short time. They can be inspected at our plant:
3 Wilson-Snyder Vertical, size 14x9-x24.
4 Dean Brothers Vertical, size 10x-12x24.
1 Dean Brothers Horizontal, size 10x-12x14x12.
Will sell in a lot or singly.
GRAVER Corporation
East Chicago, Indiana

FOR SALE at a bargain—2,500-bbl. skimming plant complete. Also two Blaisdell cracking units in excellent condition. Will sell complete or in part. Anyone needing stills, condensers, towers, boiler, tanks or pipe, write Box 1088, Little Rock, Ark.

27"x16' Bridgeford lathe, $600.
24"x12' Lodge & Shipley lathe, $850.
No. 60 Heald cylinder grinder, $750.
No. 2 Barrett cylinder boring machine, $700.
We carry a complete line of machinery and supplies. Terms can be arranged if desired. Send for list.
Cincinnati Machinery & Supply Co.
219 East Pearl St.,
Cincinnati, Ohio.

MAKE me an offer for 5 sets, from 15½-inch down to 6⅝-inch of Scott, Mann. Patent casing, 2¼ link elevators, also 25,000 feet of ⅞-inch Continental special wire drilling cable. D. Y. Brennan. 5794 McPherson Ave., St. Louis, Mo.

USED LINE PIPE FOR SALE
50,000 feet 3-inch
75,000 feet 4-inch
50,000 feet 6-inch
Two miles 60-pound first-quality relaying rails.
For immediate shipment from our Texas yards.
KEYSTONE PIPE & SUPPLY CO.
315 W. T. Waggoner Bldg.
Fort Worth, Texas.

FOR SALE
Large Mud-hog pump, 50-h.p. Oil Well oil engine, complete with starter, clutch, etc. Used less than one year and in perfect condition. Will sacrifice.
DIAMOND PIPE & SUPPLY CO.
Fort Worth, Texas.

FOR SALE—Machine shop doing nice busines in live oil field town on railroad. One 24-inch by 14-foot Pittsburgh lathe, with oil field taper attachment; 1 18-inch by 11-foot Cincinnati lathe, with compound taper attachment; 1 8-inch Standard Weiland pipe machine, with 3-inch to 8¼-inch dies; 1 24-inch Ryerson drill press; 1 No. 20 Hampton drill press, complete assortment of drills; 1 14-inch power hack saw; 1 15-h.p., F. & M. oil engine; 1 20-h.p., G. M. motor; 1 3-h.p. Wagner motor; 1 combination cutting and welding torch, with gauges. A large stock generator parts, fishing tool and casing nipples. Other holdings devote too much time. Box B-450, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—All or part of an air cleaning outfit for oil wells. Box 327, Dewey, Okla.

FOR SALE—EQUIPMENT

FOR SALE—
PIPELINE EQUIPMENT
National Transit Cross compound pumps.
De La Vergne oil engine and power pump.
Gates, flanges, gauges and recorders.
All material same as new and at attractive bargains. Inspection welcomed. Address
THE CRESCENT PIPE LINE COMPANY
323 Fourth Ave.,
Pittsburgh, Pa.

TWO 250-horsepower Foos Gas Engines; four 75-horsepower G. E. motors; one 200-horsepower Westinghouse motor, 3-phase, 60-cycle, 2,300-volt; one 78x18 boiler and stack, steel casing, 140-pound pressure; one 14-x14 Chuse Steam Engine; one 8-ply rubber belt, 16-inch; all above equipment in new condition. P. O. Box 21, Dallas, Tex.

EQUIPMENT WANTED

WAX PRESS WANTED

48" diameter, equipped with ½" spacing rings, blankets and plates complete. Give detailed specifications, stating length of press over all and length of ram. Box B-445, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

STEAM SPECIALTY SALESMAN

Wanted to represent us in open territory. Good commissions.

FRANCE PACKING CO.
6510 Tacony St., Philadelphia, Pa.

POSITION WANTED

EXPERIENCED oil man wants job as production man or scout for good company; over 15 years' experience; good references. Box 238, Gorman, Tex.

MECHANICAL ENGINEER, qualified by 12 years steam power and cracking plant experience, desires refinery connection in engineering and operating capacity. Particularly familiar with the development, construction and operation of the Dubbs Process in detail. Box B-390, The Oil and Gas Journal, Tulsa, Okla.

THOROUGHLY EXPERIENCED refinery man desires communication with anyone needing such a man. Box B-464, The Oil and Gas Journal, Tulsa, Okla.

I HAVE been in the producing and distributing end of the Natural Gas Industry for the past 20 years. Have been field superintendent most of the time and can handle any end of the business. I am open for position in Texas or Oklahoma. Box B-412, The Oil and Gas Journal, Tulsa, Okla.

TEN YEARS experience in a tubed salt water flood gas field, taking care of wells. Can swab drowned out ones with light machines. Good water and grade school considered. Box B-451, The Oil and Gas Journal, Tulsa, Okla.

TOOL DRESSER — Open for a job. Can go anywhere. Write or phone L. B. Jamieson, Asher, Okla.

LETTERHEADS—PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CONSUMERS' LEDGERS
We are prepared to furnish from stock standard forms of gas meter Consumers' Ledgers. Sample forms and quotations on request. First-class material and workmanship.
DERRICK PUBLISHING CO.
Oil City, Pa.

FOR SALE—REFINERIES

MODERN OIL REFINERY for sale; 400 bbls. capacity which can be doubled with moderate investment. Large acreage. Permanent supply highest grade crude lubricating oil at $2 per barrel less than similar grades in any other section. Located on a leading trunk railway and ocean waterway. Transportation costs to markets of the world less than at any other refining location. Land and buildings, exclusive of refinery and equipment, worth more than purchase price. Will net 100 per cent on investment. All negotiations strictly confidential. Address for details: Ocean Refinery, care of The Oil and Gas Journal, Tulsa, Okla.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER & ALLWINE
240 Ouray Bldg., Washington, D. C.

PATENT-SENSE — Valuable book (free) for inventors seeking largest deserved profits. References include prominent oil men. Write Lacey & Lacey, 718 F. St., Washington, D. C. Established 1869.

WANTED

CAPITAL WANTED to finance valuable invention in oil industry; "faster cutting rock bit." Write Karl Fischer, 3806 Holmes St., Dallas, Tex.

ACREAGE WANTED
In shallow Mid-Continent Field for drilling contract; proven or close to production preferred. Also want leases, producing royalties and production. Give details. W. D. Woodriff, Gas & Electric Bldg., Denver, Colo.

INTERESTED party wants to know address of S. O. Crawford. Communicate with Box B-471, The Oil and Gas Journal, Tulsa, Okla.

WANTED—The address of Ernest E. Siler. Important information wanted. Please address Box B-462, The Oil and Gas Journal, Tulsa, Okla.

WANTED—WET GAS
California or Mid-Continent. Interest in profits or overriding royalty for gas leases. Give volume and gasoline content. Letters confidential. P. O. Box 147, Station C., Los Angeles, California

CAPITAL—An experienced, dependable broker with following will give personal attention to financing of worthwhile proposition. B. W., 810 Broad St., Newark, N. J.

MONEY RAISING

DEPENDABLE
FINANCING SERVICE
Results sure, swift, economical. Employ the One Great Plan—the plan that gets money. Avoid abortive "mail order" and "phony" broker schemes. Describe proposition. Hansel Financing Specialists, 212-GE Earlham St., Pittsburgh, Pa.

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 117 E. 10th, Oklahoma City, Okla.

FOR SALE—MAPS

ROCK MAP COMPANY, Houston, Tex Just completed maps of Matagorda and Guadalupe Counties, with owners and leases. Complete road map of Fort Bend County.

SOUTHEASTERN NEW MEXICO
MAPS
Geological, Ownership and Sectional.
Write for folder.
M. H. HUNTER CO.
Roswell, N. Mex.

EQUIPMENT WANTED

WANTED—Second-hand gasoline motor driven cleaning out machine. M. Ellis, 312 Roberts Bldg., Tulsa, Okla.

BUSINESS OPPORTUNITY

EVERY MAN his own gelogist by my Geo-Physical method. Particulars 969-B Union Trust Bldg., Pittsburgh, Pa.

1,800 ACRES on promising closed untested oil and gas structure in Henderson and Webster Counties, Kentucky, offered free for a test. Write for structure map and geological report. Box B-470, The Oil and Gas Journal, Tulsa Okla.

WE HAVE block, 4,000 acres leases, Madison County, Texas. Oil in two wells adjoining property. Will give 3,000 acres and half interest in well on 80 acres for financing well. Eagle Drilling Co., P. O. Box 535, Brenham, Tex.

FOR SALE or lease direct from owner, European hotel of 65 rooms in growing city of 30,000, having the finest beach in the world. D. H. Bennett, 336 So. Palmetto Ave., Daytona Beach, Fla.

WILL SELL or trade part or all in the largest second-hand pipe and supply house in north Texas. Will trade for farm or ranch land or property. This is a big money making business and volume can be greatly increased. Address Box B-441, The Oil and Gas Journal, Tulsa, Okla.

ONE-HALF mineral rights, 16,600 acres, well scattered, east and west of Hemphill, Sabine County, Texas; Magnolia and Gulf lessee's on Caldwell-Angelina. Flexture or Jackson fault, $1.50 cash, $2 oil. Thirty-acre lease in southwest of northeast of 4-10-1e, Urania oil fields, $50 cash, $50 oil per acre, three years, $1 rentals. E. H. Vordenbaumen, Shreveport, La.

ACREAGE in new Texas field, southeast of Shamrock, for drilling contract. Thomas P. Martin, Box 968, Oklahoma City, Okla.

RANCHES—FARM LANDS

COTTON plantation in Yazoo Delta, 9 miles from Yazoo City, on gravel road and Y. & M. V. Ry. Station on property; land high and in good state of cultivation; price and terms reasonable. Address E. S. Birchett, Yazoo City, Miss.

RIVER FARM—117, improved; close to fishing stream; fruit; spring water; school on place; team, wagon and cow; $1,170. W. Arthur, Mountain View, Mo.

TEXAS PANHANDLE RANCH, 25,000 acres, near oil fields, for sale cheaper than lease. John P. Marrs, City National Bldg., Wichita Falls, Tex.

$3.50 PER ACRE, 10,000-ACRE RANCH WILL MAKE SPLENDID GAME PRESERVE
Good hunting and fishing. On Eleven Points River; 300 acres cultivated. Four sets buildings; heavy fence. Fine range. One-day shipment to St. Louis.
J. RICHARD BROOKS
Alton, Mo.

I HAVE for sale 8,000 acres best farming land on South Plains along highway from Tahoka to Lubbock in tracts of 80 to 1,280 acres in body. Improved and unimproved. $40 to $60 per acre. Good terms. W. C. Wells, Tahoka, Texas.

FOR SALE—DOGS

FOR SALE—White collie puppies from prize winning mother Shomont sire. C. H. McCune, Benton, Kans.

REAL ESTATE

FIRST-CLASS HOTEL for sale in Blackwell, doing big business; reason for selling, going to Texas or Florida. Will stand closest investigation. Address Box 30, Blackwell, Okla.

FOR SALE—Beautiful residence, substantially built; 16 rooms and 3 baths; in exclusive residence district, St. Louis, Mo. Lot 212 feet front by 186 feet depth (almost an acre.) This property cannot be duplicated in St. Louis for $100,000, if at all. Price $60,000. For photographs and particulars, address Charles N. Gilles, Deputy Finance Commissioner, Syndicate Trust Bldg., St. Louis, Mo.

INCORPORATIONS

DELAWARE incorporators. Charters fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

September Expected to Be Good Month

Big Gasoline Demand in Chicago Territory. Kerosene and Fuel Oil High and Firm. Natural Gasoline Strong.

By J. B. Waldo

CHICAGO, Aug. 28.—Inquiries made of the managements of several of the leading distributors of gasoline with stations both in and outside of the city, some of them covering the entire territory, secured the general statement that all were having a very large business and that consumption was larger than a year ago.

The increase in the number of motor buses is continuing and is limited chiefly by the facilities of the builders of these motor vehicles. In some of the neighboring and smaller cities where there has been established a central terminal for motor bus traffic, the large number of these bus lines is noticeable. In Chicago there is no central point for intercity bus traffic but there are lines operating in every direction and the traveler can go by bus to New York City or to southern and western points a thousand miles away. Many delightful recreation trips are to be made and the buses are used freely for both business and pleasure. The average consumption of these buses is close to five miles to the gallon of gasoline and the increase in gasoline consumption due to these buses is important.

September a Good Month

There is a very general expectation that this large consumption of gasoline will make itself felt in the market situation shortly. Labor Day is always one of large use of the automobile if weather conditions are at all favorable. The coming month is credited by the weather bureau as being one in which the number of rainy days is limited and it is usually one of the best months of the year for out-of-door events such as golf tournaments and the like. The season this year has been late right through and although the schools begin their year immediately following Labor Day and the nights are growing longer with less opportunity for night driving, there are many reasons for believing that the September demand for gasoline will be fully as good as for July if not for August. It has made this record for years of being a better month than July for gasoline consumption. Many in the local industry are very hopeful that the market will show more activity in September so far as actual buying by jobbers is concerned than August. With such generally large consumption and comparatively limited buying of additional supplies, the country stocks must have been drawn on, although there is always a good deal of quiet replenishing going on through deliveries on contracts.

At the beginning of this week, there was a rather unsettled feeling in the market due in part to the spell of rainy weather that prevailed over most of the territory. Some of the southern refiners that had been disappointed in their export business were seeking a little more relief and there were sales made at less than 10½ cents for resale with 10⅝ cents quoted to the trade by some for immediate acceptance. But as the week progressed and good gasoline weather ruled, there was a better feeling.

No Immediate Price Cut

Jobbers who had been holding back their orders for an expected reduction in the tankwagon scale began to realize that there was little possibility of any reduction either in that scale or in crude prices and began to order. The larger refiners held their prices fairly well, some dropping to 11 cents but others holding for the 11¼ cents as their bottom price. The result was that there was a better demand from the jobbers, not a rush business but some better and many inquiries, including several for train load lots. The cheap gasoline is about all placed and any concessions from the 11-cent price were for distress cars and rejections. There have been a considerable number of the latter, many of them on account of the odor and bad color of some of the southern product. Another factor of some importance in the present condition of the market is the strength in the natural gasoline situation. On this product for AA and A grades the market was firm at 10 cents and lower grades were strong at only a quarter of a cent less for even C grade. At the close of the week, even the least optimistic called the Navy market price 11 cents flat and several refiners were trying to get 11¼ cents, but stated they believed that by the early part of next week the market would be at least 11¼ cents. Of course much depends on the weather, but nothing unexpected happening to unsettle conditions the feeling is that there will be something of a recovery in the gasoline situation. For one thing the spell is broken that there must be a cut in the gasoline tankwagon prices during August.

Kerosene Demand Active

Kerosene has been in not only considerable but very active demand. The market closed firm with 9½ cents the quoted price. That this is the bottom is proven, some say, by the fact that a northwestern jobber with a large gallonage paid that price for 41-43 kerosene this week. Another indication of the strength of the market has been bids of 9⅜ cents in buyer's cars made to local marketers here by a Tulsa purchasing agency. There has been a lot of buying between refiners and the price in some instances has been 9½ cents for quantities over September. Deliveries are very much behind, in some cases stated to be lack of cars but in most of them lack of material. Jobbers who have hesitated and held their orders find that they are obliged to pay more money. The second advance in the tankwagon price of kerosene on August 24, rather took the trade by surprise although there were reports as early as the Friday previous that such a move was probable owing to the difficulty which the Standard had met in placing orders for its own use and the added fact that while the purchase was supposedly for spot delivery it had been obliged to accept deliveries over 30 days to complete the order. Refiners can and probably will increase their runs but at the best that they can do it will be some weeks before there should be any surplus and by that time the fall demand will be here. Some refiners are talking about a 10-cent market but right now the price is 9½ to 9¾ cents with a tendency to hold for the latter except with regular customers.

The demand for distillates is very active and available supplies are limited. There are some stocks available for immediate delivery at the market but few refiners if any want to contract for the season at the present quotations. Some local distributors state that they have been able to contract for quantities of distillate and gas oil but not for their full requirements. One of the authorities in the oil burner manufacturing industry estimates that the number of installations will amount to 1,000,000 in the United States before the beginning of the real winter. The authority also estimates the average requirements for each burner installed at 2,500 gallons. This would indicate a consumption of 2,500,000,000 gallons or one-fourth of last year's consumption of gasoline. If these figures are accurate or even approximately so, the inquiry of some, "Where is it all to come from?" is justified.

Distillate and Gas Oils

The demand is strong for straw distillate and gas oil and there will be some trouble regarding the delivery of a dark oil when the specifications are for a straw oil. Some that was called a 28-30 straw gas oil was offered here two weeks ago that was taken on by some distributors. They state that the oil that is being shipped them is black, and they do not want it. Of course the color does not make any difference in the essential quality of the oil but the distributors have educated their trade to insist on a clean, light, odorless oil and the users now believe that a dark oil is dirty and foul smelling. The result is an increasing premium for light distillates and light gas oils.

Gas oil is strong with the other heavy products. It is not so arrogantly strong as fuel oil but those who try to buy find sellers very firm in their views. The outside gas companies are ready to buy and have bought in some instances for more than their immediate needs but many have still but small supplies in their storage and would like to place orders now. They are in the peculiar position of having their selling price fixed for them by local ordinance so that there is no possibility of passing the added cost for material along to the purchaser. The purchasing agent of a gas company in one of the nearby smaller cities was called on by a salesman who was informed that no oil man could tell him anything about the oil business. The secretary had been to Tulsa, and knew all about the market. He would buy a little at 4 cents and later would buy his requirements at a less price. The salesman regretted his inability to sell the gas company at 4 cents and the interview was ended. There are industrial users who have filled their storage in part. There are distributors who have bought more or less but there is a lot of demand yet to be satisfied and unless supplies are very materially increased later, a strong market is looked for. The uncracked, straw gas oil has sold as high as 4⅝ cents this week with the cracked product selling at 4¼ to 4⅜ cents and some asking 4 cents.

Fuel Oil Strong

Fuel oil is so strong that the trade as well as the consumers are wondering how high it will go. A year ago the prevailing price of 24-26 refinery fuel oil was $1.00 a barrel and it was not strong at that. Now the refinery price is $1.45 a barrel and consumers are being quoted $1.50 per barrel. This is an advance of 50 per cent and the likelihood that if 24-26 oil is ordered all that will be received is a 20-24 at best. No wonder the large users are asking the reason for this advance. The trade talk of the use of fuel oil for cracking stock and the like and the reduced quantity of fuel oil produced. The latter is by far the most important factor of the two. At any rate the offerings are light, except of the heavy gravities below 18-22. Of the 28-30 and the 30-32 there is practically none to be had. A little here and there but not enough to make a market. If the buyer must have it he pays the price. Now buyers begin to report that there is no available supply of 26-30 or 24-26 gravities and the prices asked and paid show that the supply must be light. For the 26-30 the quoted prices range from $1.60 to $1.65 and for 24-26 from $1.45 to $1.50. Of course most oil men can remember when higher prices than these were the market but there was always some special reason such as a coal strike or a rail walkout or something of the kind. Today with no such reason the buyers are asked much higher prices than a year ago and any explanation connected with cracking processes is just about Greek to many of them. There are few users that have any stock. Some have seen the hand writing on the wall and purchased but the majority have hoped and waited for lower costs. Of course there must come a top to the market but where and when no one can predict. Will the end of the season of greatest gasoline demand bring about an increase in the supply of fuel oil? Some say no and some yes. While the buyer is waiting, his needs are growing for the industrial outlook is very good and more fuel of some sort must be burned to keep the wheels going than a year ago. Naturally the consumer would like a contract. Many say so, but the sellers cannot cover and the result is that only a few contracts are reported. One refiner stated that he had made a contract for 300 bbls. a month for eight months at the prevailing market to be decided by averaging the prices named in The Oil and Gas Journal and two other publications. One hears so many stories of the substitution of lower grades for the product named in the purchase order that one wonders how many of them can be true. A sale of Smackover fuel at something below the going market is explained by the statement that the seller delivered untreated pit oil instead of thoroughly treated oil from a well-known producer and refiner. So it goes. But the present tendency is toward higher prices. Curiously enough there is little or no talk by consumers of changing to coal or gas. Gas is a very suitable fuel but more expensive than oil and it is doubtful if industries that are using oil would really save anything by changing back to coal unless they made a very extensive installation for burning coal as the Cudahy Packing Co. has been doing.

Tank Wagon Scale

There has been no change in the gasoline tankwagon scale of the Standard Oil Co. of Indiana and there is little prospect for any immediate change. It is too late for any such during August and there is no reason now for a change that was not present during the most of August. The present apparent course of the price structure will be a fairly steady position until the falling off of the gasoline consumption to a materially lower level may cause some change probably beginning with crude oils. It is also unlikely that there will be further advances in the kerosene tankwagon prices as the demand can be easily supplied by a slight increase in runs by refiners. The next move may be in the export market although exporting organizations state that they see nothing ahead and that a large export movement will wait on conditions in Europe. An interesting statement is that every large oil distributing company in Germany is controlled by English or American companies and that much the same condition prevails in other nations in western Europe.

OFFERS LOGAN COUNTY LAND

Commissioners of the Land Office of the State of Oklahoma will receive sealed bids until 2 o'clock p. m. on September 14 for oil and gas leases on certain of its school and state lands in Logan County, as follows: NE Section 36-17n-2w, 160 acres; SE Section 36-17n-2w, 160 acres.

CRACKING STOCK AND STRAIGHT-RUN CRUDES TIGHTEN IN EAST

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church Street, New York

NEW YORK, Aug. 28.—Kerosene continued the feature of the Atlantic Coast oil markets. Although there were no further advances in the tankwagon market for kerosene, refinery and tankcar quotations were boosted. All important refiners are now quoting 11 cents a gallon for prime white kerosene. Reasons for the strength in kerosene have already been discussed in these columns, and there does not seem to be anything important to add.

Interest, in fact, has been swerving away from kerosene, despite the strength in prices of that product. It now centers in the future of gasoline, a product of much more direct importance to the oil refiner, marketer or producer.

Gasoline has held steady throughout this year. There have been several advances in prices, which are now at the year's peak. There have been few instances of weakness in the eastern territory this year. But, in the opinion of many students of the market, there is even less change for weakness in the future than up to this time. The reason for this is that refiners, who have been concentrating on gasoline, and who will have to continue to do so because of the big demand, are finding it less easy to obtain "cracking" stock in the form of fuel oil, gas oil and kerosene; and, furthermore, the grade of crude which yields a large percentage of straightrun gasoline, is not any more plentiful than it has been.

In other words, indications are that before long, refiners will be forced to bid more energetically for high-grade crude oil, in the absence of ample fuel oil or other heavy products to work on. If this bidding results in higher prices for crude, doubtless gasoline will have to go up, too.

Gas and Fuel Oil

The gas oil and fuel oil markets continue firm. These products seem to be getting somewhat scarce in this district. There is an especially good demand at this time for bunker fuel oil. It is expected the price of this oil will be advanced within a few weeks, due in part to the declining production of heavy Mexican crude oil.

Lubricating Oil

Lubricating oils are holding firm. Demand has improved steadily toward a summer peak. Automobile oils, of course, are the feature at present and are strong. Steam cylinder oils are still somewhat inactive, but prices are holding steady.

Paraffin Wax

The paraffin wax market still exhibits no change. Higher melting points are very active, but are unchanged in price with 135-137 quoted at 7 cents a pound. pound.

Petrolatums

Dark green petrolatum is steadier, with some transactions recorded at 2 and 2⅛, against a recent low of 1⅞. In fact, some business had been reported as low as 1¾. These prices are for car load lots.

The Export Market

The oil export market here is generally strong. An exceptionally good demand for cased oil products has developed, of which kerosene and gasoline are the features. Shipments of cased kerosene reported during the past week on ships' manifests aggregated 3,424,930 gallons. This compares with 1,550,050 gallons last week and 3,337,540 gallons two weeks ago. Exports of cased gasoline for the past week, ended August 25, amounted to 1,234,600 gallons.

The bulk trade is also holding up well, although not featuring. Bookings indicate a continued good bulk movement, especially to Mediterranean ports, including those of Spain, Portugal, southern France and Morocco.

There has been a considerable revival in the demand for wax from Italy, and current shipments are on a fairly large scale. The Scandinavian countries have also been good customers for refined wax during the past few weeks.

Although European buyers have been reported bidding for gas oil in the New York market, it is understood they have had difficulty in procuring this product, due to the comparatively small amount on hand here available for export.

The following table shows principal exports of petroleum and petroleum products from New York reported during the last three weeks (figures in gallons unless otherwise noted in parentheses):

	Week Ended		
Gasoline:	Aug. 25	Aug. 18	Aug. 11
Bulk	778,352	1,696,655	....
Barrels	....	241,500	100,000
Cases	1,234,600	2,047,830	1,134,870
Kerosene:			
Bulk	887,190	2,897,502	....
Cases	3,424,930	1,550,050	3,337,540
Gas oil:			
Bulk	....	134,574	....
Lubricating oil:			
Bulk	....	1,448,475	....
Barrels	1,174,800	834,400	1,477,500
Cases	177,500	225,810	209,710
Lubricating grease:			
Bbls. (lbs.)	137,700	376,650	1,163,250
Paraffin wax:			
Bags (lbs.)	1,843,600	1,059,520	2,075,260
Bbls. (lbs.)	591,850	1,206,475	520,125
Petroleum asphalt:			
Bbls. (lbs.)	293,075	1,641,600	766,175
Crude oil:			
Bulk	....	767,890	....

The foregoing figures include individual shipments of 500 bbls., 1,000 cases, or over.

Tanker Charter Market

Russia continues an important factor in the oil tanker market, due to that nation's activity in chartering vessels. This affects tankers of foreign registry.

New fixtures in various trades include the following:

Tanker Raila (Nor.), 7,700 tons, refined and spirits, Batoum or Novorossisk to United Kingdom-Continent, 20s., two trips, January loading.

Tanker Deodada (Nor.), Black Sea to Alexandria, 15s., October loading.

Tanker Svolvaer (Nor.), Batoum to Bergen, 27s., gas oil, September loading.

Motorship Hamlet (Nor.), 2,714 tons net, gas oil or lubricating oil, Batoum or Novorossisk to United Kingdom-Continent, two trips, 23s., October-November loading.

Motorship Ida Knudsen (Nor.), 12,600 tons, crude or fuel oil, Curacao to United Kingdom-Continent, 21s 6d., September loading.

Tanker Cedarpark (Br.), 3,006 tons net, clean oil, Gulf to French Atlantic, 27s 6d., September loading.

Oil Receipts Large

Receipts of crude and refined oil by water at Atlantic Coast ports continue heavy, especially from the Gulf Coast. Total receipts for the week ended August 25 were 3,648,000 bbls., a daily average of 521,000 bbls. Of this total, the Gulf Coast contributed 2,278,000 bbls., the Pacific Coast 594,000 bbls., while imports amounted to 776,000 bbls.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Weed Ended		
	Aug. 25	Aug. 18	Aug. 11
Gulf Coast	325,000	410,000	278,000
Pacific Coast	85,000	67,000	96,000
Mexico	66,000	33,000	79,000
South America	45,000	28,000	66,000
Total	521,000	538,000	519,000

Daily Average by Months

	Gulf	Pacific	Mex.	S. Am.	Total
1926					
July	360,000	66,000	115,000	36,000	577,000
June	396,000	104,000	117,000	18,000	635,000
May	318,000	66,000	114,000	25,000	523,000
April	326,000	92,000	126,000	20,000	564,000
March	317,000	97,000	152,000	26,000	592,000
Feby.	332,000	73,000	104,000	18,000	527,000
Jany.	279,000	59,000	65,000	31,000	434,000
1925					
Dec.	298,000	56,000	90,000	13,000	457,000
Nov.	259,000	36,000	80,000	12,000	387,000
Oct.	249,000	36,000	80,000	22,000	387,000
Sept.	306,000	66,000	66,000	10,000	448,000
Aug.	291,000	54,000	78,000	12,000	435,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

State Awards Roxana River Bed Lease in Sumner County, Kans.

TOPEKA, Kans., Aug. 28.—The Roxana Petroleum Corp. was the successful bidder for oil drilling rights in the bed of the Arkansas River in the Churchill Field near Oxford in Sumner County. The State Executive Council accepted unanimously the Roxana's offer of a $130,000 bonus and one-eighth royalty.

Three other companies had submitted bids, but only the offers of the Roxana and the Derby Oil Co. were considered. The Derby offered a $25,000 bonus and a minimum royalty of one-eighth and a maximum of one-fourth, the royalty to increase or decrease with the flow of oil. The company also promised to drill two wells at once if it would win the lease.

Land on both sides of the state's 145-acre tract has been leased by the Roxana corporation.

The $130,000 obtained from the Roxana and all royalties that may be obtained will go into the permanent state school fund, which already exceeds $10,-500,000.

LATERAL DRIFT OF HOLES IN DEEP DRILLING SHOWN

(Continued from Page 123)

The well was continued, drilling for another 1,100 feet after the survey.

The value to the company of such survey data in a wildcat at such a stage is left to the reader's own conclusions. The chief mechanical interest in the survey is that the hole appeared to be remarkably straight. This checked the fact that it gave little or no trouble in drilling. However, when drilling at 3,760 feet the walls of the hole caved about 340 feet below the derrick floor. There was no casing in the hole as yet, so 900 feet of 12½-inch conductor was cemented.

After drilling through the conductor to a depth of 4,600 feet the casing wore out and went bad. The exact depth at which it went bad was 338 feet. This is of interest because the survey shows that for the first four stands the hole was practically vertical. It is at a depth of just about 338 feet that the survey shows the first inclination of the hole to drift from the vertical.

Different Type Problem in Each Case

Cases 1, 2 and 3 represent three different type problems which were worked out to advantage. The problem involved in Case 1 is that of edge location. It is common practice to drive the stake for such a well quite carefully. The matter of a few feet more or less farther out on the structure might influence the decision to drill. Thus a drift measured in hundreds of feet becomes a matter of first importance to the engineer and operator.

The lesson of Case 2 is chiefly mechanical, with consequent bearing on drilling costs. Casing is the big item on the balance sheets. If we do not wear out our conductor pipe we do not have to put so much casing in the hole. If it wears out and goes bad, due to excessive crooks which might have been straightened by reaming, other difficulties follow, and cost runs to prohibitive figures. It is clearly of advantage to recognize the crooks before reaching a decision to run the casing.

The problem of Case 3 is a geological one which is present in every wildcat. To draw correct conclusions from bedding planes in cores now only awaits the development of a successful "punch" core barrel where no torsional stresses will be set up in the cutting. It is not highly improbable that after data from a sufficient number of wells on proven structures are inspected, a law between direction of drift of the hole and dip of the strata will be apparent.

Method Assures High Degree of Accuracy

Problems of the three types which are discussed in these notes by no means limit the range for oil well surveying. They merely constitute actual experience to date. The reasons for calling for a survey and the uses to which such data can be put appear to be many. Surveying itself has been accomplished with the facility of ordinary routine and an accuracy which approaches precision. The fact of extensive lateral drift in deep drilling has been established.

Other than the engineering features which have been partly covered in these notes, there is another important consideration to this recent development—namely, the legal aspect involved in lateral drift where town lotting is concerned. When boundaries are crossed it would appear that trespassing ensues. The tendency should be to consolidate in community leases with economically sound line agreements and consequent spacing. This would eliminate present extravagant ovedrilling, resulting in direct benefit to legitimate operators and at the same time favor conservation of our natural resources in oil and gas.

EXTENDING MAIN LINE

HOUSTON, Tex., Sept. 4.—The Houston Pipe Line Co., a subsidiary of the Houston Oil Co., is extending its main line from the Live Oak County gas district to the Cole-Bruni section in Duval-Webb Counties. The distance is 80 miles. The extension is 16-inch and 12-inch pipe.

Another extension is being laid from the main line at Mywaka, southwest of Houston to Hoskins Mound and Freeport plants of the Freeport Sulphur Co. It is a 16-inch line, 54 miles long. The Freeport Sulphur Co. has contracted for a maximum of 30,000,000 feet per day for fuel at its Hoskins and Freeport mines.

The Houston Pipe Line Co. has started work on a compressor station, 2 miles west of Edna, Jackson County, on its main line from the Refugio and Live Oak County Fields to Houston. The Edna compressor station will comprise six 1,000-horsepower Cooper compressors. The company is now using small compressors in the Refugio County Field to aid in maintaining the pressure.

Wright Brothers' No. 1 Lee in the Edna gas field is rated at 60,000,000 feet per day. It is being connected to the lines of the Houston-Gulf Cas Co., which has a line from Refugio County to Houston.

DEATH OF CLAUDE F. CHARD

Claude F. Chard, for several years Cleveland district sales manager of the Austin Co., engineers and builders, Cleveland, was killed in an automobile accident recently. Mr. Chard's territory included Southern Ohio, Kentucky and southern Indiana. Mr. Chard graduated from Perdue University in 1910. He was a member of Triangle fraternity and a member of the Cincinnati Club, of Cincinnati. Before his association with the Austin Co. in 1918, Mr. Chard was with the Westinghouse, Church, Kerr Co., a construction firm located in New York.

WILLIAM RICHARDS DEAD

CHATHAM, Ont., Aug. 28.—William Richards, a resident of Petrolia, Ont., for upwards of 50 years, died suddenly a few days ago, aged 78. Born in England in 1848, Mr. Richards came to Petrolia as a boy, and after oil was struck was for many years identified with the industry, being for a considerable time employed with the Smallman oil properties. His wife predeceased him. One daughter, Mrs. William Henderson of Peru, South America, and one son, Robert, in British Columbia, survive. The funeral took place at Hillsdale cemetery, Petrolia.

BRITISH IMPORTS

The percentage of American participation in the total petroleum imports into Great Britain during the first half of 1926 has not shown any marked change either way, being 41 per cent (344,232,-085 gallons) for 1926 as against 34 per cent (275,539,940 gallons) for 1925 and 40 per cent (278,151,756 gallons) for 1924.

Use of Instruments in Gasoline Plants

Too Many As Well As Too Few Installations Can Be Made. Location and Type Equipment Is Important

By Frank P. Peterson

FIFTH ARTICLE

The accompanying article is the fifth of a series by Mr. Peterson dealing with the efficient operation of natural gasoline plants. The series started with the factors to be considered in the operation of a gas gathering system and will be continued through all phases of plant operation.

The previous article which dealt with the determination of air in gas appeared in the August 12 issue of The Oil and Gas Journal.

From field and laboratory control and record of operation we should now pass to the same provision to be made in plant for observation and record of plant performance. While we may not have arrived just yet at that stage of gasoline economics calling for the extraction of every possible ounce to be found in our casinghead and natural gas, that day must come. And we may venture along the course of assumption right now that a reasonable effort for perfect recovery efficiency will be well repaid in revenue from operation.

Given the premises of well designed, well balanced operative equipment, skilled forces and a general situation of well-placed investment, we have the choice of two courses of procedure. One will be the course of easy comfort and the too readily granted assumption that we are doing well enough as it is; the other will be the course of unceasing vigilance to make sure that nothing goes amiss from day to day, and that we, as operative force, do not let down to an easy plane of indifferent performance. We may without over-exertion keep the wheels turning and make a fair showing from day to day. We may, on the other hand, take advantage of the ardor and enthusiasm of initial operation and establish a record of our best performance as a mark to be maintained and bettered. A live, ambitious force of operatives will set up a record of the very best kind of effort in the initial stages of operation of any plant. Notwithstanding whatever deficiencies may occur or develop in the initial performance of operation, the factors developed for high efficiency of plant performance will be of such noteworthy importance that they may be set up for a record to be held and bettered, if possible. A log of operation is, of course, an essential and should be kept up as long as plant is in service. From it a comparison of contributory factors affecting plant output and efficiency will always be available, from day to day, month to month and year to year.

Instrument Values

Indicating instruments for control of all the elements of plant performance are essential, of course; but the record to be deduced and preserved from their observation is, necessarily, limited. Recording instruments, while more expensive to install, are, in all the major elements, well worth the preference. It is possible to overdo the matter of recording instruments; to make not only wasteful outlay in their provision, but also a wasteful effort to make good use of their charted records. Operation must decide how far to go and which are the essential factors which may be made worth while by comparison. It is not to be overlooked that provision of any large number of recording instruments will call for some amount of special attention. A good meter instrument man usually qualifies also for ordinary repairs and maintenance of other instruments of similar type. Consequently, all pressure gauges will come at once within his scope of training, and it will usually follow that he can master and correct derangements of ordinary nature of the other equipment, such as thermometers, thermostats, etc.

There can be no question of the justification of the following line of instruments of the recording type in large plants:

Necessary Instruments

Recording vacuum pressure gauge on main incoming gas to plant and static-differential gauge for recycled vapors. This line of observation also leads directly into the matter of stabilizer operation.

Recording pressure gauge on stills—main vapor line to condensers.

Recording pressure gauge—main vapor header, gasoline stock tanks.

Recording pressure gauge—line for gasoline delivery from plant to shipping point.

Recording Thermometers

Recording thermometers should be provided as follows:

Cold, denuded oil on entrance to absorbers:

Recording thermometer with themostatic control couple and motor valve on vapor outlet of dephlegmator or "knock out" tower.

Oil body in stills. Where a battery of multiple stills are operated in parallel, one instrument in the outgoing stream will suffice but indicating thermometers must be provided for each still.

The use of recording thermometers may be extended beyond the foregoing suggestions, but this is not so essential as it might at first glance appear.

Provision for temporary installation of recorders is quite desirable at the heat exchanger element of plant. Four instruments will be required for this purpose. After a positive record of heat-exchanger performance has been obtained, the instruments may be removed and indicators substituted.

Plant forces should be provided with a few extra instruments of diversified character and encouraged to use them to a reasonable extent intelligently directed, both in initial and extended development of operation.

In the selection of temperature record instruments, those for stills will require a maximum top range limit of not less than 450 degrees Fahrenheit. Those for the hot end of heat exchanger may be the same; for the cold end, a top range of 200 degrees will be sufficient, while the instrument for "knockout" vapor should have a top limit of 300 degrees, and for cold oil 150 degrees. Selection of the instrument scales need not conform exactly to these specifications, and such ranges may be used, for which stock charts are available, as will conform as nearly as possible to each requirement.

The consumption of steam in stills is a factor of sufficient importance in the writer's judgment to justify the installation of a steam meter at this point, whereby instrument record will be made available also of steam pressure in plant.

While the foregoing suggestion of provision of record instruments will appear excessive to one school of operators, it will also appear insufficient to another. Usually the installation of an instrument which may be questionable, results in a very satisfactory ending. The writer has in mind a case in point. At the plant of the Mid-Continent Petroleum Corp., Cromwell, Okla., a rather obscure condition of engine trouble developed. Two-stroke cycle compressor engines are used. They are probably more sensitive or responsive to slight variations of heating value, or even pressure, of the fuel supply than are the other type. In any event, undue heating occurred with every evidence of overloading of the machines, while the latter was known not to be the case. Being more or less in the dark, since we did not have an engine indicator at hand, we ordered a low-pressure recording gauge.

Before the instrument arrived, the trouble had been located. The water drainage from an exhaust tunnel had become plugged. The back pressure on the exhausts was excessive. The drainage was opened up and the engines went on with their load. In due course the gauge arrived, but for months it was not installed. Trouble occasionally recurring in the engine room suggested to the plant superintendent the installation of the gauge. The result has been gratifying indeed. The gauge tells a story of fluctuating fuel pressure. While the best fuel pressure reducing regulators available are in use, it is found that they stick or jam occasionally. Inspection of the charts from the recording instrument and comparison of the pressure variances with results reflected in engine operation has cleared a situation heretofore obscured and not understood by the engine room forces, saved considerable annoyance and probably much more unnecessary repair or maintenance expense than the value of the gauge.

Location of Instruments

Again, there will be a divided house as to location of recording instrument equipment. From one point of view, wherein appearance comes up for consideration, the instruments may be located, as far as their nature will permit, on one central board. This board may be embellished somewhat. It will add greatly to engine room grandeur. Also, it will save the chart man many steps. But there is a question whether this is the best arrangement. Recording instruments not only indicate on their faces the condition existing at the moment of inspection, but they show also what has happened back to the moment at which the last chart has been placed in service. Not only this, but they will be kept, in most all cases, in repair and in correct indication. Knowing this, operative forces will rely wholly on their recorders as indicators. Thus it will immediately appear that location of the recording instruments is of much importance, and the forces on shift duty will want a hand in the matter. The most inteiligent disposition that operation can make of the matter is, the writer thinks, to locate recording instruments about as would be most logical for indicating, with a permissable tendency to locate them somewhat more in groups, as much as can be done with regard to the subdivided elements which their indications serve. As far as possible, fuel, vacuum and compression pressures should be located in the engine room, still and condenser pressures (and temperatures as far as possible), together, stabilizer and stock storage and line pressure and temperature elements in another group, etc.

Having disposed of the matter of instruments for control of operation, we may now approach the work in detail of preparation and tuning up of all the physical equipment for the grueling service into which it will be thrown with the turning of the wheels. Once going, it is to be remembered, there will be no let-up so long as gas issues from the wells. Twenty years will not be an excessive expectation for the average good plant.

SHORTAGE OF TANKERS COMING; SOUTH AMERICAN IMPORTS FACTOR

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, Aug. 28.—A serious shortage of American-registered oil tanker tonnage is developing, due to a steady increase in United States intercoastal oil traffic. Many leading users of American oil tankers foresaw the situation and chartered entire tanker fleets early this year, with the result that vessels usually on the market are engaged and will be for some months to come. Other companies, in order to anticipate the increased movement of oil, placed orders for new tankers to be built for them late last year or early this year, including Standard Oil and Gulf Refining.

The Shipping Board's surplus tanker tonnage has gradually been taken off the market as a result of sales to oil companies, so that one of the important causes of weakness in the situation has been removed. Atlantic Refining Co. was one of the principal buyers of Shipping Board tonnage during the last year, having purchased half a dozen of the board's best vessels. Some of these are now being converted into motorships and will be available to handle the company's business within a few months, it is believed. Cities Service has also been a purchaser of Shipping Board vessels.

The Standard Oil Co. of New Jersey, in addition to its own American-registered tanker fleet, is understood to have between 15 and 20 additional ships under time charter. This does not include ships of foreign registry used in its export trade.

Large fleets of American tankers outside of those owned by oil companies include those of the Atlantic Gulf & West Indies Steamship Co. and C. D. Mallory & Co. Both fleets have been engaged for some time by American oil concerns.

One tanker authority states: "The tanker situation is better for this time of year than for several years past." In fact, not since 1920 has there been a real shortage of tanker tonnage of American registry. At that time tankers were in demand principally in the Mexican trade, which was then at its height. Following the decline in that traffic, ships for the California trade were in demand, relieving to a large extent the surplus which was beginning to develop.

The decline in California trade, which ocurred about a year or so ago, resulted in throwing considerable tanker tonnage into the idle class. However, the situation has been improving gradually, not due to heavy traffic in any one trade, but to the general increase in movement in all principal American routes. These are principally from California to the Atlantic Seaboard, from Mexico to the Atlantic and Gulf Coasts, from the Gulf Coast to the Atlantic Seaboard, and from

(Continued on Page 129)

SERIOUS SHORTAGE OF AMERICAN TANKERS

(Continued from Page 128)

Colombia and Venezuela to the Gulf and Atlantic Coasts.

Tanker authorities, however, foresee a big increase in movement in the latter route, namely, from Colombia and Venezuela to the Gulf and Atlantic Seaboards of the United States, as a result of new production developing in the South American countries. Apparently vessels of American registry will be used almost entirely in this trade.

From almost nothing, the movement of oil from Colombia and Venezuela to the United States has increased to somewhat near 100,000 bbls. a day, within the past year. Some of the biggest vessels are now being used. This traffic has offset the decline in the movement from California to Atlantic and Gulf ports.

Tankers now under construction for the most part will be able to carry from 100,000 to 150,000 bbls. of crude or refined oil per trip. The day of the 50,000 to 70,000-bbl. oil tanker has about passed, so far as new construction is concerned.

Charter Rates

Tanker charter rates now are not so high as in the early spring. But tankers are scarce, and new business will probably send rates up above current figures. The rate for crude oil tankers from the Gulf to north Atlantic is now 26 cents. A few cents higher was quoted a few months ago. The rate from Tampico to north of Hatteras (north Atlantic) averages 30½ cents a barrel. Venezuela and Colombia trade calls for identically the same rate as from Tampico.

Foreign Tankers in Demand

The situation with regard to tankers of foreign registry is the same as with American tonnage. An increase in export trade is responsible, and this is ascribed to larger consumption in Europe, on the one hand, and the tendency to beat out import duties, on the other. In addition, Russia is actively bidding for tanker tonnage. Rates are near the top, and, in the belief of some authorities, will go higher.

ROCKY MOUNTAIN AREA

(Continued from Page 54)

350 bbls. in the Ellis sand at 1,450 feet on Section 27-35-2.

Runs From the Fields

Salt Creek	48,750
Teapot	1,280
Big Muddy	3,200
Grass Creek	3,000
Elk Basin	880
Greybull	20
Rock River	2,720
Notches	160
Rex Lake	260
Lance Creek	1,200
LaBarge	120
Poison Spider	1,260
Osage	340
Hamilton Dome	1,170
Lander	300
Byron	40
Pilot Butte	40
Lost Soldier	5,260
Ferris	80
Simpson Ridge	120
Cat Creek	2,770
Lake Basin	200
Sunburst	25,000
Florence	500
Moffat	3,190
Tow Creek	950
Fort Collins	4,010
Boulder	25
Rangeley	100
Hogback	700
Rattlesnake	1,430
Artesia	3,000
Total	112,975

RUSSIAN SALES OF OIL EXCEED OUTPUT

(Continued from Page 32)

the fact that more or less of the final figures are so far missing.

Sales Increase 38.5 Per Cent

Indirectly the total sale of oil products as shown above increased in comparison to the preceding year by not less than 38.5 per cent. At the same time it is declared this increase was accompanied by improvements in the quality of production.

The total value of the production handled by the Neftesyndicate sold on the domestic market or exported abroad at prices fixed f.o.b. Batum or Novorrosiysk amounted to 242,500,000 rubles against 204,200,000 showing that the program was surpassed by 18.7 per cent.

In comparison with last year the turnover increased 55,000,000 rubles, or 28.5 per cent, mainly due to export. As a matter of fact the turnover of the import trade increased by not less than 80 per cent while the increase in the domestic trade was 16.8 per cent.

It is stated that figures given show considerable extension of bank credit. While in 1923-24 the discount of bills amounted only to 30 per cent of the total sum of bills in hand the figures were increased in 1924-25 to 60 per cent.

The indebtedness of buyers increased only 2,900,000 rubles or 9.4 per cent while the turnover increased 28.5 per cent.

The total result of all refinery work including mixing of products was 5,142,700 tons against 3,787,600 tons in the previous year, being an increase of 35.3 per cent.

The report states that the number of men employed in the four trusts at the beginning of the year 1924-25 was 65,001. At the end of this fiscal year the report says that the number of men employed was decreased to 62,652 or 3 per cent. It is stated, however, that wages during this fiscal year were increased about 30 per cent compared with the previous year.

Brush Optimistic Regarding Future Of the Oil Industry

The oil business is now in an exceptionally favorable position, according to Matthew C. Brush, prominent railroad executive and chairman of the board of directors of the Barnsdall Corporation. Mr. Brush last week returned to his eastern offices after spending a month inspecting the properties of the numerous companies with which he is connected, including the California and Mid-Continent holdings of the Barnsdall companies. The inspection also include the properties of the Simms Petroleum Co., an interest in which is held by one of the companies with which Mr. Brush is connected.

Following the inspection trip Mr. Brush was the guest of President Coolidge at Pauls Smiths, N. Y. Associated Press dispatches from the summer White House stated that Mr. Brush gave a very optimistic report to the President regarding the oil business and general business conditions in the Southwest. Mr. Brush is president of the American International Corporation and his inspection included several western railroads.

Mr. Brush spent one day visiting the producing and refining properties near Tulsa. To associates who accompanied him on the trip he expressed himself as being well satisfied with the outlook for the oil business during the coming year. He was accompanied on part of his trip by E. B. Reeser, president of the Barnsdall Corporation, and several executives of the Barnsdall companies.

CALIFORNIA SITUATION STRONG AS YEAR AGO

LOS ANGELES, Calif., Aug. 28.—Figures by the American Petroleum Institute covering operations in California show that during July, all stocks of petroleum products decreased by over 2,500,000 bbls. By far the heaviest drain on stocks was in refinable crude of over 20 degrees A. P. I., which decreased almost 1,800,000 bbls. during the month. Heavy crude was next, showing a decrease of over 700,000 bbls., while gasoline showed a decrease of only slightly over 300,000 bbls. The total of all stocks at the end of July was about 5,700,000 bbls. more than the total at the end of July one year ago. In view of the substantial increase in consumption during the past year, the market from the point of view of total stocks on hand, is equally strong as in July, 1925, in spite of the storage increase during the year.

Exports of petroleum products from Los Angeles Harbor continue to move in good volume. During the past week, over 650,000 bbls. were shipped to the Atlantic Seaboard. This was divided almost equally between crude and fuel oil. Gasoline shipments are somewhat less than during the past few months. The heaviest and most consistent demand from both the Atlantic domestic and Atlantic foreign trade during the summer has been for crude.

Production of natural gasoline in California continues on the increase. During July, total production for the State was 33,297,862 gallons, which is at the rate of 1,074,125 gallons per day, or a daily increase of 25,052 gallons over the previous month. In spite of the heavy gasoline production from the Ventura Avenue Field, and the consequent increase in natural gasoline produced, the largest increase of natural gasoline manufactured during July, was from gasoline plants located in the Los Angeles Basin. Plants operating from gas produced from fields in the Los Angeles Basin were responsible for 16,712 gallons of the 25,052-gallon per day increase, shown during July. While the increase in the production of natural gasoline has made itself felt on the local market, this commodity continues strong with prices firm.

WORK IS STARTED ON PANHANDLE PIPELINE

(Continued from Page 29)

THE TEXAS PANHANDLE STEEL STORAGE REPORT

Company and Location—	No. Tanks	Capacity	Stock	Room
Carson County				
American Ref. Co., Burnett—One 55,000 leased to Plains.				
Gulf Production Co., Burnett	1—55,000	55,000	50,830	4,170
Gulf Production Co., Panhandle	4—80,000	320,000	253,912	66,088
Humble Pipe Line, Burnett	2—55,000	110,000	3,769	106,231
Marland Oil Co., Burnett	2—55,000	110,000	101,000	8,730
Marland Oil Co., Panhandle—Erecting one 55,000.				
Plains Pipe Line, Burnett	7—55,000	385,000	234,157	150,843
Note: One tank leased from Silk, one from The Texas Company, one from American; one tank burned.				
Plains Pipe Line, Panhandle	2—55,000	110,000	60,420	49,580
W. W. Silk, Burnett—Tank leased to Plains.				
Skelly Oil Co., Burnett	1—55,000	55,000	21,435	33,466
The Texas Company, Burnett—One 55,000 leased to Plains.				
Gray County				
Humble Pipe Line, Pampa	1—55,000	55,000	6,305	48,695
Magnolia Pipe Line, Kings Mill	17—55,000	935,000	740,134	194,866
Two tanks under construction.				
Wilcox Oil & Gas Co., Pampa	1—80,000	80,000	3,823	76,177
Hutchinson County				
Coble-Whittenberg, Block Y—One 55,000 under construction.				
Gulf Pipe Line, Spearman	4—80,000	320,000	77,936	242,064
Erecting four 80,000 tanks.				
Humble Pipe Line, Block Y—Tank site.				
Japhet & Coon, Block Y	1—55,000	55,000	None	55,000
Marland Oil Co., Block Y	6—55,000	330,000	214,145	115,855
Erecting two 55,000 tanks.				
Marland Oil Co., Reimer	1—55,000	55,000	None	55,000
Philtex, Block Y	10—55,000	550,000	412,200	137,800
Erecting four 55,000 tanks.				
Prairie Oil & Gas Co., Block Y	3—55,000	165,000	9,576	155,424
Erecting two 55,000 tanks.				
Plains Pipe Line, Block Y	1—55,000	55,000	36,420	18,580
Roxana Petroleum Corp., Block Y—Erecting two 80,000 tanks.				
Skelly Oil Co., Block Y	3—55,000	165,000	11,818	153,182
Potter County				
Amarillo Refining Co., Amarillo	1—55,000	55,000	51,006	3,994
Wheeler County				
Midwest Exploration Co., Shamrock	2— 6,500	11,000	8,683	2,317

NORTH TEXAS MARKET SHOWS IMPROVEMENT

WICHITA FALLS, Tex., Aug. 30.—The improvement shown in the gasoline situation marked the most important development in the north Texas refined market the past week. Other products continued strong with advancing prices, including natural gasolines for which the demand remained steady.

The apparent cleaning up of considerable cheap U. S. Motor (58-60 437) material which has been on the market for the past two weeks is largely responsible for the better tone in the situation as a whole. Other gasolines continued slow, their fractional higher prices being due to the strengthening of the U. S. Motor grade.

U. S. Motor gasoline, which had been available as low as 10¼ cents and 10½ cents from general refinery quotations the week previous was not offered freely under 10¾ cents Monday with some refiners holding for 11 cents. Refiners who had been quoting low prices apparently were out of the picture, as buyers who had been getting this material were unable to fill their requirements.

There was no export movement of importance reported but the aviation (64-66 375) gasoline was slightly tighter, being quoted from 11½ to 11⅝ cents with the 60-62 400 grade at 11¼ to 11⅜ cents. The general situation in higher gravity gasolines has not been particularly unfavorable, the market having been kept fairly clean by exporters and some domestic demand. The weakness the past few weeks has been due largely to the low export postings and also to the inactive U. S. Motor gasoline.

Natural gasolines kept up a steady advance in prices. The demand has not been sensational but the steady flow of orders has moved considerable gasoline until now there is not a great deal of material available. Sellers Monday were getting a minimum of 10 cents on the A grades and some were getting that price on Grade B. Grade Double B and Grade C were available at 9¾ cents.

Inquiries by the city of Denver for 40,000 bbls. of fuel oil caused considerable interest in that product, and one large railroad buyer also was reported ready to buy. As a result nothing in a 24-26 fuel was offered below $1.50 and some sellers were holding for higher prices. One refiner sold 50 cars at $1.65 to an outside buyer.

Gas oil also maintained its strength although inquiries were not as active Monday as in days of the previous few weeks. The strong fuel oil situation and the scarcity of the product offset any bearish move which might develop out of the apparent slackening of demand. Gas oil was quoted from 4¾ cents up.

Distillates continued tight with indications of higher prices but so far there has been no change over last week.

COASTAL LUBRICANTS

HOUSTON, Tex., Aug. 30.—Certain grades of pale and red lubricating stocks advanced one-half a cent per gallon during the week; 100 viscosity pale is now quoted at 8½ to 9 cents from 8 to 8½ cents; 200 red is now 10 to 10½ cents from 9½ to 10 cents and 750 red is quoted at 16½ to 17 cents, advancing from 16 to 16½ cents.

Other grades are unchanged. Gas oil and fuel steady, but unchanged.

Refiners report a firmer tone all around since crudes remain at present posted prices with a single exception of Spindletop.

REFINING AND MARKETING

SUIT TO DETERMINE TITLE TO REFINERY

ARKANSAS CITY, Kans., Aug. 30.—Efforts to clear the title of the refinery property now operated by the Arkansas City Refining Co. are being made in a foreclosure suit filed in district court here the past week. The suit, filed by the St. Louis Union Trust Co. against trustees of the Millikin estate, H. W. Loeb, John G. Longsdale and the St. Louis National Bank, asks foreclosure of a mortgage given in security for four notes for $250,000 each given in 1920 by the Millikin Refining Co., then the owner of the plant, to John G. Houllihan.

As the actual notes given Mr. Houllihan have come into the possession of the individual estate of John Millikin, the suit is a friendly one to give foreclosure title to the property for the Millikin estate.

Parties in the suit include a long list of firms connected with the leasing and operation of the refinery since 1920, and also firms with mechanics' liens against the refinery property. The suit, if successful, will eliminate their claims in favor of the original mortgage claims.

The Universal Oil Products Co., which has Dubbs cracking units at the refinery is affected by the suit as its property is on a piece of land, 600 by 1,000 feet, which has been released from the mortgage.

The full title of the lawsuit is as follows: St. Louis Union Trust Co., H. W. Loeb, John G. Lonsdale, the St. Louis National Bank of Commerce, trustees under the will of John T. Millikin, deceased, vs. the Millikin Co., a corporation; Continental and Commercial Trust and Saving Bank, Chicago; William P. Kopf, trustee; George M. Moore, E. H. Perry, the Moore Refining Co., the Continental Supply Co., Universal Oil Products Co., Taxman Refining Co., the Western Iron & Foundry Co., the National Supply Co., the National Supply Co.-Midwest, Mathieson Alkali Works, Kansas Gas & Electric Co., Bell Oil & Gas Co., the Arkansas River Gas Co., the Arkansas City Refining Co., the Midco Petroleum Co., if legally existing and if not legally existing or dissolved the unknown successors, trustees, or assigns, if any of such corporation.

The Millikin property now is being operated under lease by the A. C. Refining Co., a subsidiary corporation of the Bell Oil & Gas Co. of Tulsa.

PURE OIL CO. TO MOVE LABOR DAY

CHICAGO, Aug. 28.—The Pure Oil Co. has planned the removal of its headquarters from Columbus, Ohio, to Chicago to take advantage of the Labor Day holiday. Some of the preliminary moving is being done and at the close of next week, the records and office equipment will be loaded on a special train which will be routed direct to the tracks near the new building and the transfer rushed so that the office work will be concluded Saturday, September 4, in Columbus and resumed on the day following Labor Day in Chicago.

OCCUPYING NEW QUARTERS

CHICAGO, Aug. 28.—The addition to the Standard Oil Co. building is about completed and some of the departments are about to be moved to their new quarters. It is stated that the space set aside for some of the departments has been increased, so rapid has been the expansion during the period the work of adding the extra stories to the building was being pushed through. The building is now of the most modern type in every appointment.

NEW DEVICE ENABLES BUS TO USE DISTILLATES INSTEAD OF GASOLINE

MINNEAPOLIS, Minn., Aug. 30.—Successful tests of a new device which will enable motor buses to operate efficiently with a cheap distillate as a fuel have been conducted here under the supervision of Prof. Frank B. Rowley, director of the University of Minnesota experimental engineering laboratories.

This adaptation of high speed, high compression engines to cheaper fuel is claimed to mark a new era in motor fuels, making possible the elimination of gasoline, and even kerosene. So far the device has been perfected only for buses and heavy duty motors and not for pleasure cars.

In the tests, a motor bus equipped with the device made a 226-mile run from Minneapolis to Duluth burning ordinary furnace oil instead of gasoline. The tank was filled with 50 gallons of this fuel and sealed. Gasoline was used only in starting to warm the motor, the shift from gasoline to oil being made at the dashboard. The trip was made under most severe conditions since a driving rain prevailed throughout the day. The bus made regular stops and performed perfectly maintained a speed of about 40 miles an hour.

The trip required 31 gallons of furnace oil and less than one gallon of gasoline. The same motor would require more than 40 gallons of gasoline. The fuel consumption was at the rate of 7.15 miles to a gallon of furnace oil while the average consumption of gasoline would have been about 5½ miles a gallon. The price of distillates in carload lots at Minneapolis on the day of the trip was 7 cents a gallon and gasoline 16 cents, thus the saving was approximately 60 per cent.

The device is a unit of the motor, consisting of intake and exhaust manifold and carburetor. These are substituted for the standard manifold and carburetor. Complete combustion of oil heavier than gasoline or kerosene is said to be the secret of the invention.

ACTIVE FOR TRAFFIC REFORM

CHICAGO, Aug. 28.—Sheldon Clark, vice president of the Sinclair Refining Co., is taking great interest in the subject of improvement of conditions for the use of the highways. He is chairman of the Citizens Committee of Illinois, organized for the purpose of securing the adoption of the "Uniform Vehicle Code" recommended by the Hoover National Conference for street and highway safety. It would seem there could be no real opposition to so needful a plan, but Mr. Clark says there is much opposition of the selfish kind. One of the objects is the licensing of all persons permitted to drive cars. Mr. Clark believes that some such uniform regulation would be a great benefit to auto owners and public generally and hopes to secure the approval of the next Legislature. Sidney Williams is the secretary of the organization.

HOWARD E. FELT MAKES CHANGE

Howard E. Felt, who has been assistant manager of the Tulsa office of the American Petroleum Products Co. for the past six years, has resigned and is now associated with Dale W. Moore, a widely known buyer of petroleum products with offices in Tulsa. Mr. Moore for several years has been the Mid-Continent buyer of several jobbing concerns and has also acted as agent in purchases made by other concerns. Mr. Felt, previous to his connection with the American Petroleum Products Co., was employed in the manufacturing and sales departments of the Atlantic Refining Co.

TAX RECEIPTS SHOW GAIN

LINCOLN, Nebr., Aug. 30.—Gasoline tax receipts in Nebraska for July totaled more than $315,000, it has just been announced by state officials. Receipts during the same month of 1925 were only $285,921. More than 500 retail and wholesale dealers made returns.

LANDSITTEL WITH RADOLPH

Albert E. Landsittel, sales manager of the Globe Oil & Refining Co., with offices at Tulsa, has resigned, effective September 1, to accept a position with the Randolph Petroleum Co., a marketer of petroleum products. Mr. Landsittel has been with the Globe Oil & Refining Co. three years, previous to which he was with the Producers & Refiners Corp.

SAND SPRINGS ACCIDENT

Two men were burned fatally and two badly injured in a small explosion and fire at the Sands Springs refinery of the Pierce Petroleum Corp. the past week. The dead are Floyd Baker and Rufus Reece. Cecil Bryson and Cap. Reece were burned badly. The accident is believed to have resulted by a spark igniting from a leaky line in a crude still the men were cleaning.

GOES WITH CARDINAL OIL CO.

MUSKEGON, Mich., Aug. 28.—F. H. Emig, formerly with the National Petroleum Marketers Association and before that in the auditing department of the Producers & Refiners Corp., has been appointed secretary and treasurer of the Cardinal Oil Co., of this city. He is an expert accountant and has recently been employed by oil companies in this capacity.

RAWLEIGH WARNER TREASURER

CHICAGO, Aug. 28.—Rawleigh Warner has been elected treasurer of the Pure Oil Co., and assumes his new position September 1. Mr. Warner has been for years associated with Dawes Brothers, Inc., large investment dealers and bankers as vice president and treasurer. The offices of the Pure Oil Co. are to be transferred to this city about September 1.

BUYS SUNBURST COMPANIES

LOS ANGELES, Calif., Aug. 28.—California Petroleum Corp. has purchased the majority stock of the International Refining Co. of Sunburst, Mont., and complete ownership of the Northern Star Oil & Refining Co., also of Sunburst. Louis B. O'Neil, president, and John O'Neil, vice president of the Montana companies, will remain in charge of those offices, the former becoming a vice president and member of the board of directors of the California Petroleum Corp.

GASOLINE PLANTS PAY FEE

HUNTINGTON BEACH, Calif., Aug. 30.—Under an ordinance just passed by the city council all natural gasoline plants within the corporate limits must pay an annual license fee of $125.

LEAGUE WILL OPPOSE GASOLINE TAX RAISE

LOS ANGELES, Calif., Aug. 30.—An organized campaign against the proposed increase in the state gasoline tax from 2 to 3 cents is being planned by the League of California Municipalities. The tax proposition is to be voted on at the November election.

The league, in its annual convention recently at Camp Curry, passed resolutions condemning the proposed increase in tax as detrimental to the best interests of road and highway problems of California cities. It was explained that the tax, going into State funds, is not used for roads that carry the heaviest traffic, namely roads kept up by cities.

ETHYL ILLEGAL IN WYOMING

CASPER, Wyo., Aug. 30.—Sale of ethyl gasoline is illegal in Wyoming, according to a ruling just made by David J. Howell, attorney general. The ruling is based on a statute which prohibits the marketing of any motor fuel not water white. The next legislature, however, may be asked to enact a law permitting the sale of fuel with antiknock qualities.

SULLIVAN IS APPOINTED MANAGER OF TIDE WATER

Arthur W. Sullivan, formerly sales development and advertising manager of the Tide Water Oil Co. and the Tide Water Oil Sales Corp., has been appointed general manager of the Tide Water Oil Sales Corp.

Arthur W. Sullivan

Mr. Sullivan has been with the Tide Water Oil Co. since January 1, 1926, although he had served as executive on Tide Water advertising with the Joseph Richards Co., Inc., advertising agency previous to that. With the Joseph Richards Co., Inc., he was vice president for seven years.

Before that he was advertising manager of the Vacuum Oil Co. for six years and it was during his tenure of office that the Vacuum Oil Co. developed its extensive advertising program.

Succeeding Mr. Sullivan as sales development and advertising manager is William C. Gittinger, formerly Mr. Sullivan's assistant.

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Refinery Equipment

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General Steel Plate Construction

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- *Hot Process*
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Brief Items for Plant Operators

Improved Motor Fuel Is Marketed this Year Over United States

That the average motor gasoline marketed in the United States this summer is better than usual is disclosed as a result of the fourteenth semi-annual motor gasoline survey, recently completed by chemists of the Bureau of Mines, Department of Commerce. The results of the survey, which covered the 10 representative cities of New York, Washington, Pittsburgh, Chicago, New Orleans, St. Louis, Denver, San Francisco, Laramie, Wyo., and Bartlesville, Okla., indicate, that 1926 summer gasoline excels that sampled in any of the previous summer surveys, covering a period of seven years past.

The motor gasoline being marketed in the United States this summer apparently is more volatile than gasoline sold in the summer of 1925, state E. C. Lane, J. M. Devine and Peter Grandone, in their report of the survey. In fact, the average volatility of this summer's gasoline is almost the same as the average volatility of the gasoline marketed last winter. Improvement in gasoline quality is indicated particularly at the lower end of the distillation range and at the endpoint. The central and upper parts of the distillation range are not far different from those of gasoline previously marketed. A detailed study of the different analyses indicates that the improvement in quality is due to two factors, first, to a larger percentage of samples with relatively low initial and endpoints and second, to an improvement in the volatility of the benzol blends marketed in different parts of the country.

In the past there has apparently been a distinct difference between "summer" and "winter" gasoline, that marketed during the winter being more volatile than that sold during the summer. This year there is little difference between "winter" and "summer" gasoline.

EMPIRE OIL WORKS IMPROVES RENO PLANT

OIL CITY, Pa., Aug. 30.—Additions and improvements to cost $100,000, which will increase the output of its plant at Reno materially are being made by the Empire Oil Works, Inc. A complete Sharples dewaxing unit, consisting of five machines and the necessary refrigerating equipment and insulated storage tanks, is being installed. Also a new still and condenser as well as other general equipment will be constructed.

A new building already has been constructed to house the new wax plant and the new equipment is expected to be in operation early in October.

The Empire Oil Works, Inc., has been in operation at its present location 40 years. It has maintained a steady growth and last December it consolidated with the Empire Oil & Grease Co.

COAST FIRM TO BUILD NEW ASPHALT REFINERY

LOS ANGELES, Calif., Aug. 30.—The Ventura Asphalt Co. has just been incorporated in the State to build and operate a 25-ton asphalt refinery at Fillmore. J. O. Thomas of Los Angeles is president of the company which has leased 42 acres of asphalt beds, and an adjoining 60 acres which will be drilled for oil.

The company will develop the asphalt first and work will be started on the refinery in the near future. A barrel of heavy oil suitable for fuel or roads is expected to be obtained from every ton of asphalt.

COURT DISMISSES JENKINS SUIT AGAINST SINCLAIR REFINING CO.

NEW YORK, Aug. 31.—Judge Peters in United States District Court, southern district at Portland, Me., has dismissed the complaint of the Jenkins Petroleum Process Co. against the Sinclair Refining Co. in a suit in equity in which the Jenkins company claimed it had a contract with the defendant company under the terms of which the latter was obligated to assign patents on the Edward W. Isom cracking process to the plaintiff. The case was tried in November and December, 1923, and at that time the plaintiff asking for an accounting in case of a favorable decision alleged possible reimbursements in the neighborhood of $50,000,000 based on the operations of the Isom process in the Sinclair plants for a number of years.

The bill in equity was brought to compel the defendant to assign to the plaintiff letters patent issued to Edward W. Isom, vice president of the Sinclair Refining Co. and son of W. H. Isom, president, on November 19, 1918. The plaintiff claimed to be entitled to this assignment by reason of a written agreement with the defendant dated October 2, 1916, by which it was stipulated that the plaintiff should loan the defendant for experimentation purposes certain apparatus devised by U. S. Jenkins for the purpose of obtaining gasoline and other light oils from heavier hydrocarbons and that any improvements in its mechanism or in the process that might be thereby developed by the defendants' agents should accrue to the plaintiff.

History of Patent

After the machine had been examined and the proposed new process explained to Mr. Isom, it was shown that he obtained the patent referred to which also covered a method of cracking hydrocarbons claimed by the plaintiff to be in some respects similar to the Jenkins process and to be derived therefrom. Meanwhile Jenkins was granted two patents on his process apparatus, the first application being filed on July 13, 1916, being issued May 15, 1917, and the second application filed September 27, 1916, and issued November 11, 1919.

It was shown that in 1916 Jenkins, a steam power engineer, entered the employment of the defendant then the Cudahy Refining Co., as a lubricating engineer and became interested in the problem of carbon and coke involved in cracking. As a result he evolved the so-called Jenkins process and a small experimental still to exemplify it and interested W. H. Isom, who directed E. W. Isom, who was investigating the cracking method of the company, to look into it. An experiment was made which the defendant showed was unsuccessful but which interested the company sufficiently for it to permit Jenkins to set up his apparatus at the Coffeyville plant and resulted in the contract which was the basis of the suit.

Terms of Contract

This contract stated that any improvements whether of a mechanical nature or in the process which might be developed as a result of the work of the Sinclair's engineers and experts in familiarizing themselves with the Jenkins apparatus and process should accrue to the Jenkins company and that the Sinclair company should so far as it was able to do cause its employes carrying on the experimental work to execute applications for patents and to assign such applications to the Jenkins Petroleum Process Co.

It was asserted by the defendant that

(Continued on Page 140)

AMONG THE TECHNICAL MEN

Emile J. Mary, who has been superintendent of the Dallas, Tex., refinery of the Simms Oil Co. since June of 1922, has resigned, effective September 1, to accept a similar position with the Shreveport Producing & Refining Corp. at Shreveport, La.

Emile J. Mary

In 1922, when Mr. Mary took charge of this refinery it was a small skimming plant belonging to the Clayton Oil & Refining Co., and under his direction it was rebuilt into one of the most efficient plants in the Mid-Continent Field. It has a capacity at present of 5,000 bbls. with two 1,000-bbl. and two 500-bbl. Cross cracking units and other up-to-date equipment. In July, the average recovery of gasoline at this plant per barrel of crude was 61.7 per cent and from month to month it has been running about 62 per cent. The Simms Oil Co. acquired it in June of 1925 and Mr. Mary was retained as superintendent under the new management.

Mr. Mary was born in New Iberia, southern Louisiana, January 5, 1891. He attended the public and high schools there and was graduated from the engineering department of Jefferson College in 1908. His first connection with the oil business came in 1915 when he entered the employ of the Caddo Central Oil & Refining Co. at Shreveport, La., literally starting in at the bottom and working his way to the top. When he left this concern in 1921 to take charge of the plant of the Paramount Petroleum Co. at Vivian, La., he was superintendent of one of their refineries.

After a short period with the Paramount company, Mr. Mary was connected with the Root Refineries at El Dorado, Ark., leaving them in June, 1922, to take charge of the Clayton plant at Dallas.

BUILDING REFINERY IN BRITISH COLUMBIA

CASPER, Wyo., Aug. 28.—The Union Oil Co. of California has decided that its production can be shipped by rail to the Pacific Coast rather than build a refinery in this region. Accordingly, the company is starting a new refinery at Barnett, British Columbia, and will spend $1,500,000 on it. After the completion of this refinery, the black oil now held in by the Union Oil Co. in Wyoming is expected to be shipped by rail to this plant for treatment.

Sunburst, on the west edge of the Sunburst Field in Montana, stages a refinery day every summer. The day is held in commemoration of the starting of the O'Neil refinery there about three years ago and the plan has drawn a great crowd every year. The day was celebrated this year on August 21, and over 1,500 visitors were present.

SCHULTZ PROCESS TO JAPAN

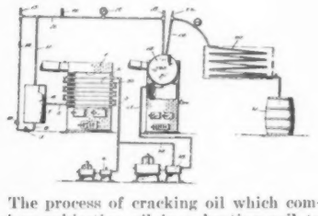
Three units of the Schultz Vacuum process for the manufacture of lubricating oil have been sold by the Graver Corp. of East Chicago, Ind., to the Ogura Oil Co. of Yokohama, Japan. The process will be installed in that company's Yokohama refinery where a Jenkins cracking process recently was placed in operation. The sale was made through Asano Bussan Co. of New York, American representative of the Ogura Oil Co.

PLANT GIVEN PERMIT

LOS ANGELES, Calif., Aug. 30.—The Fellows Gasoline Co. has been given a permit by the city council at Huntington Beach for the erection of a natural gasoline absorption plant at that city. The plant will handle 25,000,000 feet of gas daily.

Recent Patents

1,593,275. Process of Refining Oil. Berry V. Stoll, Louisville, Ky. Filed October 26, 1922. Serial No. 597,010. 1 Claim. (Cl. 196—59.)



The process of cracking oil which comprises subjecting oil in a heating coil to a cracking temperature of from approximately 700 to 750 degrees Fahrenheit under a pressure of approximately 150 pounds per square inch, and allowing the product to expand in a cylinder still at a temperature of approximately 400 to 500 degrees Fahrenheit under a pressure of approximately 100 pounds per square inch.

1,596,593. Process for Treating Petroleum Emulsions. Melvin De Groote, St. Louis, Mo., assignor to William S. Barnickel & Co., Webster Groves, Mo., a corporation of Missouri. Filed October 1, 1925. Serial No. 59,952. Three claims (Cl. 196—4).

1. A process for treating petroleum emulsions, characterized by subjecting the emulsion to the action of a suitable chemical demulsifying agent in the form of a highly colloidal, coagulescent suspension containing a soap-forming organic radical.

(Additional Patents on Page 161)

Wall Street Thinks Oil Is Safe for Year

Disposition to Discount Opening of New Fields and Danger of Radical Overproduction Thought Past

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church Street, New York

NEW YORK, Aug. 30.—Oil securities were strong and active during the past week under the leadership of Shell Union and The Texas Company which made new highs for the year. The disposition seemd to be to discount reports of the opening of new fields in the Mid-Continent and the opinion is becoming more general that so long as the oil business has held its own through the summer the chances of radical overproduction are past for this year.

The Texas Corporation

Formation of The Texas Corporation, which will take over the stock or holdings of The Texas Company, has been announced. Articles of incorporation have been filed at Wilmington, Del. The Texas Corporation, incorporated in Delaware, will ultimately supplant The Texas Company, incorporated under the laws of the State of Texas. The main feature of the move is, in effect, the transfer of The Texas Company from a Texas to a Delaware corporation. The authorized capitalization of The Texas Corporation is $250,000,000, divided into shares of $25 par value.

Notice will soon be sent to stockholders that they may exchange their holdings, share for share, for stock of the new concern. The plan has been approved unanimously by the directors of The Texas Company and, as well, by a large number of large stockholders. Deposits of stock will be accepted at the Chase National Bank of New York until November 1 and certificates issued until shares of The Texas Corporation can be delivered. Conditions of the plan include application to list the certificates of deposit on the New York Stock Exchange and the deposit of more than 50 per cent of The Texas Company stock outstanding.

Chairman Beaty's Statement

In the statement announcing the plan, Judge Beaty, chairman of the board of The Texas Company, says:

"Up to the present time The Texas Company has been handicapped because of the limited powers that could be exercised under the laws of the State of Texas, particularly with reference to holding the stock of other corporations, and it was to meet this situation, as well as to provide for the necessities of an expanding business, that the new corporation was organized and a plan of reorganization put on foot. The principal competitors of the existing company are organized in states other than Texas and enjoy the privilege of holding the stock of other corporations without limit, so long as the antitrust laws are respected.

"An incidental advantage of this exchange is that estates of deceased stockholders in the new company, who reside outside of Texas, will not be subject to the graduated inheritance tax imposed by the laws of Texas. At present the transfer from an estate of stock of The Texas Company, more than 90 per cent of which is owned outside of Texas, is subject to this tax regardless of the stockholders' residence. It is fair to assume that this is reflected in the market price of the stock, which means that stockholders generally are affected.

"It should be understood that this is only the first step in bringing the property into a better plan of incorporation. Later the new company will expect to acquire, by what further reorganization of the operating company is necessary, 100 per cent ownership. In the meantime, officers and directors of The Texas Company become the officers and directors of the new company, so that the same policies may govern both, and stockholders may feel assured that proper care will be exercised to preserve the established business and good will of The Texas Company, including its trademarks and brands.

Corresponding Dividend Rate

"Upon the consummation of this exchange The Texas Corporation will inaugurate a dividend rate corresponding to that of The Texas Company. The greater scope of operations and other advantages to be enjoyed by the new company, it is believed, should add to its future earnings. The listing of the stock, which is a condition in the offer, should make it an active issue at once. At the proper time application will be made to withdraw shares of The Texas Company from the Stock Exchange list. Deposit of stock under this offer will not interfere with the receipts of dividends because the record date for the dividend due September 30 will be past before deposits are accepted, and the exchange will have been either carried out or abandoned before the next dividend is due.

"It may not be inappropriate to add, in conclusion, that this step is wholly without resentment against the policies which prevail in the State of Texas."

Standard of New Jersey

The directors of the Standard Oil Co. of New Jersey have established $40 a share as the price at which the trustees may purchase stock for the account of employes under the second stock acquisition plan during the six months following July 1.

Under the plan the price shall not be above or more than 10 per cent below the average market price of the stock for the previous three months.

At the expiration of the first half year of the second stock acquisition plan the total amount of the fund was greater by approximately $300,000 than for the same period of the first plan. In view of the fact that under the provisions of the second plan an employes' subscription is limited to 10 per cent of his earnings, as against 20 per cent under the first plan, this was cited yesterday as an indication of the interest, developed in five years.

The total amount of the fund on June 30, 1926, was $2,664,954, as against $2,363,451 for the corresponding period of the first plan. The total number of subscribers in the current plan was 19,596, as compared with 11,685 on June 30, 1921, and the trust surplus from withdrawals was $32,067, against $23,010.

Union Tank Car

Union Tank Car common stock reflected the favorable reception of its earnings statement for the first half of 1926 with an advance to a new high price for the year at $102 a share. The company is now without funded debt, is in very good financial condition generally, and is earning at the rate of about $10 a share a year. Net for the first half of 1926 was equal to $4.67 a share, but the results for the last half are expected to better that figure, as they include business of July, August and September, usually the peak months of the railroad movement of oil products.

Barnsdall Corp.

For the seven months ended July 31, 1926, Barnsdall Corp. reports net income after interest, deprecintion, depletion, etc., of $3,687,106. This is equivalent to $3.24 a share on the 1,137,561 shares of combined A and B stock outstanding, compared with $1.68 a share on 910,952 shares of combined A and B stock outstanding for the corresponding period of 1925.

Atlantic Refining

The Atlantic Refining Co. and subsidiaries for the six months ended June 30, 1926, report net profit of $3,248,113 after interest, depreciation, depletion and federal taxes, equivalent after 7 per cent preferred dividend requirements to $5.09 a share earned on $50,000,000 common stock. This compares with $4,225,810, or $7.05 a share, in the first six months of 1925.

The consolidated income account for the six months ended June 30, 1926, compares with the same period of 1925 as follows:

	1926	1925
Gross income	$75,927,193	$65,207,738
Oper. expenses, etc.	67,255,273	55,239,292
Net income	$8,671,920	$9,968,446
Other income	684,508	532,834
Total inc.	$9,356,428	$10,501,280
Interest	575,726	641,089
Ins. and other reserves	522,986	464,985
Depr. and depletion	4,610,803	4,368,396
Federal taxes	398,800	800,000
Net profit	$3,248,113	$4,225,810
*Prefd. dividends	700,350	701,050
Surplus	$2,547,763	$3,524,760

*Includes minority interests' dividends.

The consolidated balance sheet of the Atlantic Refining Co. as of June 30, 1926, compares as follows:

Assets

	1926	1925
*Plant and equip.	$57,963,750	$58,657,266
†Lands, leaseholds	3,537,923	3,390,957
Invest. in assoc. cos.	5,969,992	7,880,906
Cash	3,963,306	2,271,470
Accounts receivable	16,782,850	14,904,657
Notes receivable	1,249,027	823,780
Inventories	39,554,416	42,247,596
Investments	3,750,814	2,607,583
Accrued interests	166,112	114,835
Advances	167,720	168,907
Deferred items	1,933,609	958,064
Total	$135,039,519	$134,026,021

Liabilities

Preferred stock	$20,000,000	$20,000,000
Common stock	50,000,000	50,000,000

(Continued on Page 139)

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE PRICES

Stocks—	Par	Clos. Quot. Aug. 30	Clos. Quot. Aug. 23	1926 High	1926 Low	1925 High	1925 Low	1924 High	1924 Low
Amerada Corp.	..	31⅜	31	31⅜	21⅜	..	..	..	..
Atlantic Ref., com.	100	115	113¼	128⅝	97	117½	95¼	140½	78½
Barnsdall "A"	25	27⅝	25½	33½	23½	33½	18⅝	29½	14
California Pet. com.	25	33	32	38⅛	30⅝	34⅜	23⅞	29	19⅜
Houston Oil	100	63¼	58⅝	72	50¼	85	59	82½	61
Independent Oil & Gas	..	25¼	24⅝	34	26¼	41⅜	13½	16¼	5⅜
Indian Refining	10	10	9½	13⅜	9½	14¼	5½	7	3⅝
Lago Oil & Trans.	..	22⅜	21⅜	24½	19¼	..	..	..	..
Louisiana Oil	10	17	16	19⅝	12	23⅜	13⅜	..	..
Maracaibo	..	24⅛	24	28⅞	20⅜	35½	20⅜	37½	25⅜
Marland	..	59⅞	57⅞	63⅝	48¼	60½	32⅝	42	29
Mexican Seaboard	..	11¼	11	13⅜	6	22½	9	26⅜	14⅛
Mid-Continent Pet.	..	33⅛	31	41	25⅝	38	25⅜	40¼	22⅝
National Supply	50	*71½	68½	68½	55½	71	54⅜	72½	54
Oil Well Supply	25	*33⅛	*34	36	30	38	33⅜	..	..
Pan Amer., B.	50	69¼	67	78⅝	56⅛	83⅜	59½	65	44½
Pan. Amer., Western B.	..	38¼	37⅝	46	34	49⅜	37¼	..	..
Phillips Pet.	..	49	47⅝	49½	42½	47¼	36¼	52½	28½
Producers & Refiners	50	13⅝	*11	17½	11	32⅜	12½	32½	29⅜
Pure Oil, com.	..	28	26⅝	31	25⅜	33⅜	25⅛	30¼	20
Royal Dutch, N. Y., sh.	13.40	52	51⅛	57⅜	49⅜	57⅜	48¼	59½	40⅜
Shell Transport	10	*44	*43	48⅝	42	48	39⅜	42	33
Shell Union, com.	..	30½	29½	30½	24	28⅜	21⅝	22½	15⅜
Simms Pet.	10	19	16⅜	28⅝	16⅛	28⅛	17⅜	24	10⅝
Sinclair Consolidated, com.	..	21⅝	21¼	24⅞	19⅜	24⅞	17	17½	15
Skelly Oil	25	35⅞	36¼	37⅛	27	32½	21⅜	29	17⅛
Standard of California	25	62½	61¼	62⅝	54	67¼	51½	68½	55½
Standard of New Jersey, com.	25	43⅜	43⅝	46⅝	40¼	47½	38⅝	41½	33
Sun Oil Co.	..	31	31	41⅝	30¼	43⅞	38⅛	..	..
The Texas Company	25	57	54	57⅛	48	55	42⅜	45⅝	37⅜
Texas Pacific Coal & Oil	10	16¼	*14	19½	12⅛	23⅜	11	15¼	8¼
Tide Water Oil	25	31½	30⅝	39¼	30⅛	..	..	..	..
Transcontinental	..	4⅝	4⅜	5½	3	5⅜	3½	6¼	3⅜
Union Oil of California	25	55	52¼	58	37½	42⅝	33⅛	39	35½
Union Tank, com.	100	104½	*93	94⅞	84½	134	118	132⅝	94
White Eagle Oil & Refining	..	26¼	26	29⅜	25⅛	31⅜	25⅝	29⅝	23⅛
Standard Oils									
Anglo-American Oil	£1	18½	17⅛	19⅜	16½	26⅜	17½	18⅜	14⅝
Borne Scrymser	25	*275	*285	295	226	240	205	164	150
Buckeye Pipe Line	50	*47	46¾	59½	47⅝	72	63½	85½	61
Chesebrough Mfg. Co.	25	*72	73½	72⅜	63	74	48½	62½	29¼
Continental	10	21½	20⅜	25⅞	19½	31⅛	21⅞	..	..
Crescent Pipe Line	25	*16	*16	16	14½	17½	10	20	11⅜
Cumberland Pipe Line	100	*169	*111½	137	108	156	128	148	108
Eureka Pipe Line	100	48	*48½	63⅜	47⅜	96	61¼	105	74
Galena Signal com.	100	19	*20	32½	17⅛	68½	23½	69⅜	62½
Humble Oil & Refining Co	25	61⅜	61⅞	68⅛	52	99	42½	43⅜	36
Illinois Pipe Line	100	134½	134½	144	131	154½	124	161	123
Imperial Oil, Ltd.	..	37⅛	36½	38⅜	32⅛	39¼	27½	119	99
Indiana Pipe Line	50	*59	*58	68	58	84	87½	100	66
International Pet. Co.	10	34½	34	35¼	28⅜	35⅜	22⅛	34⅜	16⅞
National Transit Co.	12.50	*13⅜	14⅛	20⅜	14½	25½	16⅛	25⅞	20⅝
New York Transit	100	35	*35	51½	33¼	79	50	97	54½
Northern Pipe Line	100	*73	*72	80½	68	88	67½	107½	72
Ohio Oil Co.	25	59¼	60	67⅜	55⅜	75¼	60	79½	53
Penn.-Mex. Fuel	25	*18½	*21	24¼	15	44	19	35⅝	27
Prairie Oil & Gas	25	51½	51	60¼	48	65½	45⅞	269	193
Prairie Pipe Line	100	125	*125¼	127	122½	129⅜	105	111	100
Solar Refining Co.	100	205	208	212	184½	259	200	240	170
South Penn Oil	25	38	*37½	50	35	2197	139	176	117
Southwest Pa. Line	100	52	52½	56	47½	84	50	89	68
Southern Pipe Line	50	*25	24½	74½	61½	103	63	100	80½
Standard of Indiana	25	63⅜	63⅜	70½	61⅝	70⅜	59⅛	69⅜	54⅛
Standard of Kansas	25	20	21	36½	21	46	30¼	50½	32½
Standard of Kentucky	25	123	123½	134⅝	108	137	114⅝	121⅞	101
Standard of Nebraska	100	*47½	48¼	*51⅛	†42	270	231	262	198
Standard of New York	25	33	32⅛	47¼	30⅝	48⅝	40	48	37⅜
Standard of Ohio, com.	100	*298	*302	362	292½	369	338	337⅛	277
Swan & Finch, com.	25	*17½	*17½	21	18	27	12	28	20
Vacuum Oil	25	101½	*102	109⅝	94½	163½	80½	83½	50½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	85½	85	93⅜	82½	98¼	63½	67⅝	56
Tide Water Associated	..	24⅝	24⅝	27	21	..	..	..	..

*Bid, no sales. ‡Old stocks. †New stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Aug. 30	59.86	July 26	58.44	June 21	59.91
Aug. 23	59.06	July 19	59.45	June 14	59.40
Aug. 16	59.34	July 12	59.43	June 7	58.92
Aug. 9	59.35	July 2	50.38	May 28	59.81
Aug. 2	59.76	June 28	60.17	May 24	58.84

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Aug. 31		Aug. 24		Aug. 17	
OKLAHOMA (Group 3)—						
50-52 450 end point	.10½	.10¾	.10¼	.10½	.10½	.10¾
56-58 450 end point	.10½	.10¾	.10¼	.10½	.10½	.10¾
58-60 450 end point	.10⅝	.10⅞	.10⅜	.10⅝	.10¾	.10⅞
58-60 437 end point (U. S. Motor)	.10¾	.11¼	.10¾	.11	.10⅞	.11
60-62 400 end point	.11⅛	.11½	.11¼	.11⅜	.11⅜	.11½
64-66 375 end point	.10⅝	.11⅜	.11½	.11⅝	.11⅝	.11⅞
68-70 360 end point	.12	.12⅛	.12	.12⅛	.12	.12¼
KANSAS—						
58-60 437 end point (U. S. Motor)	.11¼	.11½	.11⅜	.11⅜	.11¼	.11½
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.10½		.10¼		.10½	
50-52 450 end point (Naphtha)	.10½	.10¾	.10¼	.10⅜	.10½	.10⅝
56-58 450 end point	.10⅜	.10½	.10¼	.10⅜	.10½	.10⅝
58-60 437 end point (U. S. Motor)	.10¾	.11	.10½	.10⅜	.10⅜	.10⅞
60-62 400 end point	.11¼	.11⅜	.11⅛	.11¼	.11¼	.11½
64-66 390 end point	.11⅜	.11½	.11¼	.11⅜	.11½	.11⅝
64-66 375 end point	.11½	.11⅝	.11⅜	.11½	.11⅞	.11¾
68-70 360 end point	.12	.12⅛	.11⅞	.12	.11⅞	.12
NORTH LOUISIANA—						
58-60 437 end point (U. S. Motor)	.10¾	.11	.10¾	.11¼	.11¼	.11½
64-66 375 end point	.11½	.12	.11½	.12	.11¾	.12
ARKANSAS—						
58-60 437 end point (U. S. Motor)	.10¾	.11	.10¾	.11	.11	.11¼
64-66 375 end point	.11½	.11¾	.11½	.11¾	.11½	.11¾
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.13⅞	.14	.13¾	.14	.14	.14¼
PENNSYLVANIA—						
52 Naphtha	.12¼	.12½	.12½	.12¾	.12½	.12¾
54 Naphtha	.12½	.12⅝	.12¾	.13	.12¾	.13
56 Gasoline	.12⅝	.12⅞	.13	.13⅛	.13	.13⅛
58 Gasoline	.12⅞	.13	.13⅛	.13¼	.13⅛	.13¼
60 Gasoline	.13⅛	.13⅜	.13½	.14	.13½	.14
62 Gasoline	.14¼	.14½	.14⅜	.14¾	.14½	.14¾
64 Gasoline	.14½	.14⅞	.14⅝	.15	.14¾	.15
66 Gasoline	.15½	.15¾	.15⅜	.16	.15¾	.16
68-70 Gasoline	.17½	.17¾	.17⅜	.18	.17¾	.18
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.12	.12½	.12	.12½	.12	.12½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.10½	.11	.10½	.10⅝	.10¾	.11
56-58 450 end point	.10½	.10¾	.10½	.10⅝	.10¾	.11
58-60 437 end point (U. S. Motor)	.11	.11¼	.10¾	.11	.11	.11¼
60-62 400 end point	.11½	.11¾	.11¼	.11½	.11¾	.12
64-66 375 end point	.11¾	.12	.11⅝	.11¾	.12	.12¼
68-70 360 end point	.12¼	.12½	.12	.12¼	.12¼	.12½

*Colorado points.

NATURAL GASOLINE

	Aug. 31		Aug. 24		Aug. 17	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.10	.10⅛	.09⅞	.09⅞	.09⅞	.09¼
Grade A, 72-79.9, 375 e.p., rec. 90%	.10	.10⅛	.09⅞	.10	.09¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.09⅞	.10	.09¼	.09⅝	.08⅞	.09
Grade B, 76-83.9, 375 e.p., rec. 85%	.10		.09⅞	.09⅝	.09	
Grade C, 80-90, 375 e.p., rec. 78%	.09¾	.10	.09¼	.09½	.08¾	
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.10		.09¾	.10	.09¼	
Grade A, 72-79.9, 375 e.p., rec. 90%	.10		.09¾	.10	.09¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.09⅞	.10	.09½	.09¾	.09	
Grade B, 76-83.9, 375 e.p., rec. 85%	.10		.09½	.09¾	.09	.09⅛
Grade C, 80-90, 375 e.p., rec. 78%	.09¾	.10	.09¼	.09½	.08¾	.09
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.10⅝	.10¾	.10	.10¼	.09¼	.09⅜
Grade B, 76-83.9, 375 e.p., rec. 85%	.10½	.10⅝	.09⅞	.10⅛	.09⅛	.09⅜
Grade C, 80-90, 375 e.p., rec. 78%	.10⅜	.10½	.09¾	.10	.09	.09¼
CALIFORNIA—						
75-85, 375-390 end point	.15½	.16	.15½	.16	.15½	.16
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.10	.10¼	.09¼	.09⅜	.09	
Grade A, 72-79.9, 375 e.p., rec. 90%	.10	.10¼	.09½	.09¾	.09	
Grade BB, 84-92, 375 e.p., rec. 85%	.09¾	.10	.09¼	.09½	.08¾	.09
Grade B, 76-83.9, 375 e.p., rec. 85%	.09⅞	.10	.09¼	.09½	.08¾	.09
Grade C, 80-90, 375 e.p., rec. 78%	.09¾	.10	.09	.09¼	.08½	.09

MOTOR NATURAL GASOLINE (Blends)

	Aug. 31		Aug. 24		Aug. 17	
OKLAHOMA (Group 3)—						
60-62 450 end point	.10⅝	.10½	.10¼	.10⅜	.10¼	.10⅜
64-66 437 end point	.10½	.10⅝	.10¼	.10½	.10¼	.10½
NORTH TEXAS—						
64-66 437 end point	.10⅜	.10½	.10¼	.10⅜	.10¼	.10⅜
PENNSYLVANIA—						
*60-62	.13	.13¼	.13	.13¼	.13	.13¼
*64-66	.13¼	.13½	.13¼	.13½	.13¼	.13½
*66-68	.13½	.13¾	.13½	.13¾	.13½	.13¾
*68-70	.13½	.13¾	.13½	.13¾	.13½	.13¾
CHICAGO DISTRICT (Based on Group 3)—						
60-62 450 end point	.10½		.10½		.10½	
64-66 437 end point	.10¾	.11	.10½	.10¾	.10½	.10¾

*At Sistersville, W. Va.

BURNING OIL

	Aug. 31		Aug. 24		Aug. 17	
KANSAS—						
41-42 water white Kerosene	.09½	.09¾	.09½	.09⅝	.09	.09⅛
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.09¼	.09⅝	.09	.09½	.08½	.08⅞
42-44 water white Kerosene	.09⅞	.10	.09½	.09¾	.09¼	
NORTH LOUISIANA—						
41-43 prime white Kerosene	.09½	.10	.09¼	.09½	.08½	.08¾
ROCKY MOUNTAIN STATES—						
*40-41 water white Kerosene	.12½	.12¾	.12	.12½	.11½	.11¾
NORTH TEXAS—						
41-43 water white Kerosene	.09½		.09	.09⅜	.08⅜	.08⅝
ARKANSAS—						
41-43 water white Kerosene	.09½	.10	.09¼	.09½	.08½	.08¾
PENNSYLVANIA—						
43 Kerosene prime white	.09¾	.10	.09½	.09¾	.09½	.09¾
45 Kerosene water white	.10¼	.10½	.09¾	.10	.09¾	.10
46 Kerosene water white	.10¾	.11	.10½	.10¾	.10½	.10¾
47 Kerosene water white	.11¼	.11½	.11	.11¼	.11	.11¼
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundeblboom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.07¼	.07½	.06¾	.07	.06¾	.07
300 Mineral Seal	.08¼	.08½	.08¼	.08½	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.07½	.08	.07½	08	.07½	.08
Engine distillate, 43-45 445 end point	.09¾	.10	.09¾	.10	.09¾	.10
Engine distillate, 42-44 480 end point	.09¼	.09½	.09¼	.09½	.09¼	.09½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.09½	.09¾	.09	.09¼	.08¾	.09
42-44 water white Kerosene	.10	.10¼	.09½	.09¾	.09¼	.09½

*Colorado points.

FUEL OILS

	Aug. 31		Aug. 24		Aug. 17	
KANSAS—						
24-26 Fuel Oil	1.55		1.50	1.55	1.40	1.45
34-36 Gas Oil	.04⅝	.04¾	.04⅝	.04¾	.04⅝	.04¾
38-40 Distillate	.05½	.05¾	.05½	.05¾	.05½	
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	1.35		1.32½	1.35	1.30	1.32½
22-26 Fuel Oil (sellers' cars)	1.40	1.42½	1.37½	1.40	1.35	1.37½
24-26 Fuel Oil (sellers' cars)	1.45	1.50	1.42½	1.45	1.37½	1.40
26-30 Fuel Oil (sellers' cars)	1.55	1.60	1.50	1.55	1.45	
28-30 Fuel Oil (sellers' cars)	1.65	1.70	1.55	1.60	1.50	1.55
32-36 Gas Oil (cracking stock)	.04¼	.04½	.04½		.04½	.04⅝
36-38 Distillate	.05¼	.05½	.05¼	.05½	.05	.05¼
38-40 Straw Distillate	.05½		.05½		.05¼	.05⅜
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.50	1.55	1.47½	1.50	1.50	
32-36 Gas Oil (straw)	.04⅜	.04½	.04½		.04½	.04⅝
38-40 Straw Distillate	.05¼	.05½	.05⅜	.05¼	.05⅜	.05¼
NORTH LOUISIANA—						
18-20 Fuel Oil	1.35	1.40	1.32½	1.37½	1.32½	1.37½
32-36 Gas Oil (straw)	.04¾	.05	.04¾	.05	.04½	.04¾
32-36 Gas Oil (dark)	.04½	.04¾	.04½	.04¾	.04½	.04¾
36-38 Distillate	.05	.05¼	.05	.05¼	.05	
ARKANSAS—						
38-40 Distillate	.05¼	.05½	.05¼	.05½	.05	.05¼
32-36 Gas Oil (straw)	.04¾	.04¾	.04½	.04¾	.04½	.04¾
16-20 Refinery Fuel Oil	1.25	1.30	1.25	1.30	1.22½	1.30
GULF COAST (South Texas)—						
Gas Oil	.05⅝	.05¾	.05⅝	.05¾	.05⅝	.05¾
Fuel Oil	1.75	1.85	1.75	1.85	1.75	1.85
PENNSYLVANIA—						
30-34 Fuel Oil	.05¾	.05⅞	.05¾	.05⅞	.05¾	.05⅞
36-40 Fuel Oil	.06¼	.06½	.06¼	.06½	.06¼	.06½
CALIFORNIA—						
33-36 Distillate	.04	.04¾	.04	.04¾	.04	.04¾
27-32 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
15-20 Fuel Oil (at tide water)	1.00	1.04	1.00	1.04	1.00	1.04
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	1.45	1.47½	1.40	1.45	1.37½	1.40
22-26 Fuel Oil (sellers' cars) Group 3	1.37½	1.42½	1.35	1.40	1.35	1.37½
18-22 (Group 3)	1.35	1.37½	1.30	1.35	1.30	1.32½
18-20 (Smackover)	1.25	1.30	1.25	1.30	1.25	1.27½
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04½	.04¼	.04⅜
36-38 Distillate	.05¼	.05⅜	.05	.05¼	.05	.05¼
38-40 Straw Distillate	.05½	.05¾	.05¼	.05½	.05¼	.05½

LUBRICATING OILS AND WAX

	Aug. 31		Aug. 24		Aug. 17	
OKLAHOMA (Group 3)—						
70-80 vis., 21½ color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.06½	.07	.06½	.07	.06½	.07
100 vis., 2 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 4 color, 20-25 cold test	.09¾		.09¾		.09¾	
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 4 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 3 color, 23-28 cold test	.10½	.11½	.10½	.11½	.10½	.11½
200 vis., 4 color, 23-28 cold test	.11¼	.11½	.11¼	.11½	.11¼	.11½
200 vis., 3 color, 23-28 cold test	.10¾	.12¼	.11¼	.12¼	.11¼	.12¼
220 vis., 4 color, 25-30 cold test	.13		.13		.13	
220 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 4 color, 25-30 cold test	.15½	.16½	.15½	.15½	.15½	.16½
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
180 vis., 5 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
200 vis., 5 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
220 vis., 5 color, 25-30 cold test	.12	.12¾	.12	.12¾	.12	.12¾
240 vis., 5 color, 25-30 cold test	.13	.14	.13	.14	.13	.14
280 vis., 5 color, 25-30 cold test	.15	.16	.15	.16	.15	.16
Cylinder Stocks:						
180-200 vis., S. R. green, 40-45 cold test	.08	.11	.08¼	.11	.08¼	.11
170-190 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @ 210 "D" Bright Stock	.33	.35	.33	.35	.33	.35
200-210 vis. @ 210 "E" Bright Stock	.30	.31	.30	.31	.30	.31
150 vis. @ 210 "E" Bright Stock	.27	.28	.27	.28	.27	.28
150 vis. @ 210 "D" Bright Stock	.28	.31	.28	.31	.28	.31
Waxes:						
124-126 White Crude Scale Wax	.04¾		.04¾		.04¾	
PENNSYLVANIA—						
150, 3 color	.23¼		.23¼		.23	
180, 3 color	.26½		.26½		.26½	
200, 3 color	.29		.28¾		.28½	
220, 3 color	.31		.31		.30	
600, steam refined	.13		.13		.13½	
635, steam refined	.16⅞		.16⅞		.17	
650, steam refined	.17½		.17½		.18	
600, Pennsylvania flash	.23		.25½		.25½	

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

630, Pennsylvania flash	.33		.33		.33	
*550, E filtered	.19		.19		.19	
600, E filtered	.20		.19½		.19½	
*600, E filtered	.20½		.20½		.20½	
600, D filtered	.27		.27		.26½	
550, E filtered	.18		.18		.18	
550, D filtered	.22		.22		.22	
Pennsylvania Bright Stock	.41½		.41½		.41½	
122-124 White Crude Scale Wax	.05¼	.05⅜	.05¼	.05⅜	.05¼	.05⅜
†124-126 White Crude Scale Wax	.05¼	.05½	.05¼	.05½	.05¼	.05½

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.08½	.09	.08	.08½	.07½	.08
No. 3 color, 200 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 3½ color, 300 vis., pale oil	.12½	.13	.12½	.13	.12½	.13½
No. 3¾ color, 500 vis., pale oil	.14½	.15	.14½	.15	.14½	.15
No. 4 color, 750 vis., pale oil	.17½	.18	.17½	.18	.18½	.19
No. 2 plus color, 200 vis., pale filtered	.21½		.21½		.21½	
No. 2 color, 300 vis., pale filtered	.24½		.24½		.24½	
No. 2½ color, 500 vis., pale filtered	.27½		.27½		.27½	
No. 2½ color, 750 vis., pale filtered	.35½		.35½		.35½	
No. 5 to 6 color, 200 vis., red oil	.10	.10½	.09½	.10	.09½	.10
No. 5 to 6 color, 300 vis., red oil	.11½	.12	.11½	.12	.11½	.13
No. 5 to 6 color, 500 vis., red oil	.12½	.13	.12½	.13	.12½	.13
No. 5 to 6 color, 750 vis., red oil	.16½	.17	.16	.16½	.16½	.17½
CALIFORNIA—						
130 vis., 2½-3 color	.10	.11½	.10	.11½	.10	.11½
200 vis., 2½-3 color	.13½	.14½	.13½	.14½	.13½	.14½
300 vis., 3 -3½ color	.15	.16	.15	.16	.15	.16
350 vis., 3½-4 color	.16½	.17½	.16½	.17½	.16½	.17½
400 vis., 3½-4 color	.18	.19	.18	.19	.18	.19
Red Neutrals:						
200 vis., 4½ 5 color	.12	.13	.12	.13	.12	.13
300 vis., 5 -6 color	.13	.14	.13	.14	.13	.14
400 vis., 5 -6 color	.15	.16	.15	.16	.15	.16
500 vis., 4½-5 color	.18	.19	.18	.19	.18	.19
500 vis., 6 -6½ color	.16	.17	.16	.17	.16	.17
600 vis., 6½ plus color	.17	.18	.17	.18	.17	.18

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

Gasoline:	Aug. 31	Aug. 24	Aug. 17
U. S. Motor, 58-60 437	.13	.13	.14½
Export, 64-66 375	.14	.14	.16
Kerosene, prime white, 41-43	.11	.11	.10
*Bunker Oil, 14-16, per bbl.	1.75	1.75	1.75
*Diesel Oil, 28-30, per bbl.	2.50	2.50	2.50
Gas Oil, 28 plus	.06¾	.06¾	.06¾
Furnace Oil (tankwagon)	.11½	.11½	.11
Cylinder Oil, light filtered, 600 s.r.	.29	.29	.29
Bright Stock, No. 5, 150 vis., at 212 F.	.42	.42	.41
White Neutral, No. 1, 170 vis., 1 color	.37	.37	.37
Spindle Oil, No. 1 red, 230 vis., 5½ color	.17½	.17½	.17
Pale Oil, "25," 170 vis., 3½ color	.13	.13	.13
Pale Oil, "28," 100 vis., 2 color	.08	.08	.08
Red Oil:			
No. 3, 160 vis., 7 color	.11	.11	.11
No. 2, 212 vis., 5½ color	.12	.12	.12
No. 1, 265 vis., 5½ color	.13½	.13½	.13½
Polar, 295 vis., 6 color	.14	.14	.14
Paraffin Wax, refined:			
120-122 a.m.p., per lb.	.06	.06	.06
125-127 a.m.p., per lb.	.06⅛	.06⅛	.06⅛
130-132 a.m.p., per lb.	.06½	.06½	.06½
135-137 a.m.p., per lb.	.07	.07	.07
Petrolatum, in bbls., per lb.:			
Dark green	.01⅞	.01⅞	.01⅞
Amber	.03⅛	.03⅛	.03⅛
Cream	.05½	.05½	.05½
Lily white	.07½	.07½	.07½
Snow white	.08½	.08½	.08½

*Lighterage 5.5c a barrel extra.

NEW YORK CASE EXPORT PRICES

	Aug. 31	Aug. 24	Aug. 17
Gasoline, U. S. Motor, 58-60	.28.90	.28.90	.28.90
Kerosene:			
Standard white Kerosene	.19.65	.19.65	.19.40
Water white Kerosene	.21.15	.21.15	.20.90

LOS ANGELES EXPORT PRICES

	Aug. 31		Aug. 24		Aug. 17	
Kerosene water white	.05½	.06½	.05½	.06½	.05½	.06½
U. S. Motor Gasoline, 54-56 437 e.p.	.10	.10½	.10	.10½	.10	.10½

CRUDE OIL PRICES

OKLAHOMA, KANSAS AND NORTH TEXAS

***Prairie Oil & Gas Co.**

(Oklahoma, Kansas and North and East Central Texas)

(Effective May 15)

28° to 28.9°	$1.65
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° to 37.9°	2.37
38° to 38.9°	2.45
39° to 39.9°	2.53
40° to 40.9°	2.61
41° to 41.9°	2.69
42° to 42.9°	2.77
43° to 43.9°	2.85
44° to 44.9°	2.93
45° to 45.9°	3.01
46° to 46.9°	3.09
47° to 47.9°	3.17
48° to 48.9°	3.25
49° to 49.9°	3.33
50° to 50.9°	3.41
51° to 51.9°	3.49
52° and above	3.57

*Other major purchasers except as noted below.

Champlin Refining Co.
(Garber and Tonkawa)
(Effective May 15)

Schedule based on Prairie Oil & Gas Co. paying 10 cents additional for each grade of crude above 38° gravity.

Humble Oil & Refining Co.
(Effective May 15)

(North and East Central Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Big Lake, Nacona and Lytton Springs)

Same prices as Prairie Oil & Gas Co. schedule. Postings below 28° gravity 8 cents less for each degree, effective June 21.

Magnolia Petroleum Co.
(Effective May 15)

(Oklahoma, Kansas and North and East Central Texas, except Corsicana heavy, and Lytton Springs of South Central Texas)

Below 28°	$1.30

Other grades same as Prairie Oil & Gas Co.

Iatan	$1.15
Corsicana heavy	1.25
Panola County:	
30° to 34.9°	$1.95
35° to 37.9°	2.10
38° and above	2.25

TEXAS PANHANDLE

Kay County Gas Co.
Magnolia Petroleum Co.
(Effective May 15)

28° to 28.9°	$1.35
29° to 29.9°	1.40
30° to 30.9°	1.45
31° to 31.9°	1.50
32° to 32.9°	1.55
33° to 33.9°	1.60
34° to 34.9°	1.65
35° to 35.9°	1.70
36° to 36.9°	1.75
37° to 37.9°	1.80
38° to 38.9°	1.85
39° and above	1.90

Humble Oil & Refining Co.
(Effective June 21)

39° to 39.9°	$1.90
40° to 40.9°	1.95
41° to 41.9°	2.00
42° to 42.9°	2.05
43° to 43.9°	2.10
44° and above	2.15

Grades below 39° gravity same as posted by Magnolia Petroleum Co. and Kay County Gas Co.

WEST TEXAS

Kay County Gas Co.
(Crane, Upton and Crockett Counties.
(Effective August 11)

Below 26°	$1.20
26° to 26.9°	1.25
27° to 27.9°	1.30
28° to 28.9°	.135
29° to 29.9°	1.40
30° to 30.9°	1.45
31° to 31.9°	1.50
32° to 32.9°	1.55
33° to 33.9°	1.60
34° to 34.9°	1.65
35° to 35.9°	1.70
36° and above	1.75

GULF COAST

***Humble Oil & Refining Co.**
(Effective May 15)

Grade A	$1.60
Grade B—	
Below 25°	1.50
25° to 25.9°	1.55
26° to 26.9°	1.60
27° to 27.9°	1.65
28° to 28.9°	1.70
29° to 29.9°	1.75
30° to 30.9°	1.80
31° to 31.9°	1.85
32° to 32.9°	1.90
33° to 33.9°	1.95
34° to 34.9°	2.00
35° and above	2.05
Boling (December 26)	1.50
Spindletop (effective August 30)	
Grade A	$1.25
Grade B—	
Below 25°	1.15
25° to 25.9°	1.20
26° to 26.9°	1.25
27° to 27.9°	1.30
28° to 28.9°	1.35
29° to 29.9°	1.40
30° to 30.9°	1.45
31° to 31.9°	1.50

*All major purchasers except as noted below. Sun Pipe Line prices for Spindletop crude effective August 10; Gulf Pipe Line Co. August 6, and The Texas Company, August 9.

The Texas Company
(Effective June 8)

Grade A	$1.60
Grade B	1.50
‡Light Crude—	
35° to 35.9°	2.05
36° to 36.9°	2.10
37° to 37.9°	2.15
38° to 38.9°	2.20
39° to 39.9°	2.25
40° and above	2.30

‡The Texas Company's postings on light crude under 35° gravity are same as Humble Oil & Refining Co.'s grades and prices for Grade B crude.

SOUTH CENTRAL AND SOUTHWEST TEXAS

***Magnolia Petroleum Co.**	
Luling (contract) (Eff. May 18)	$1.30
Mirando (Webb, Jim Hogg and Zapata Counties) (May 15)	1.25
Rockdale-Minerva (Milam County)	1.25
Thrall	1.00
Callihan (Live Oak and McMullen Counties) (May 15)	1.75
§Lockhart (Lytton Springs)	
Somerset (Grayburg Pipe Line Co.): (Effective May 17)	
28° to 28.9°	$1.25
29° to 29.9°	1.35
30° to 30.9°	1.71
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.20
36° to 36.9°	2.29
37° to 37.9°	2.37
38° and above	2.45

*Texpata Pipe Line Co. and Humble Pipe Line Co. also post in Mirando Field. Humble prices 25 cents less, effective August 30.

§Lockhart prices same as for North and East Central Texas. Lockhart posted by Magnolia Petroleum Co. and Humble Oil & Refining Co.

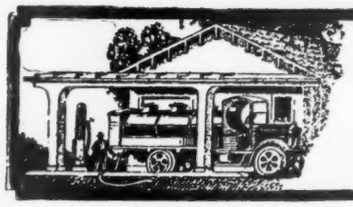
ARKANSAS AND NORTH LOUISIANA

Standard Oil Co. of Louisiana
(Effective May 18)

Caddo:	
Below 26° (July 24)	$1.40
26° to 28.9° (July 24)	1.55
29° to 31.9° (July 24)	1.70
32° to 34.9°	2.25
35° to 37.9°	2.35
38° and above	2.45
Homer below 31°	1.85
31° to 32.9°	2.00
33° to 34.9°	2.10
35° and above	2.20
Haynesville below 33°	2.00
33° and above	2.10
El Dorado below 33°	2.00
33° to 34.9°	2.10
35° to 36.9°	2.20
37° and above	2.30
Bull Bayou, 32° to 34.9°	1.95
35° to 37.9°	2.10
38° and above	2.25
Cotton Valley	1.20
DeSoto	2.30
Crichton	2.10
Bellevue	1.50
Smackover, below 24°	1.10
24° to 24.9°	1.35
25° to 25.9°	1.40
26° to 26.9°	1.45
27° and above	1.50
*Stephens, Ark., below 26°	1.45
26° and above	1.65
†Calion (East El Dorado)	1.10
§Urania (August 26)	1.10

Other companies posting in these fields are: Gulf Pipe Line Co.; Atlantic Oil Producing Co. in Homer, Haynesville, El Dorado and Smackover; The Texas Com-

(Continued on Page 141)



TANK WAGON MARKETS

Tankwagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Aug. 31.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)
Main Service Station Price

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Chicago Dist.—				
†Less than 100 gals.	19.0	21.0	...	15.5

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 6, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1, g. down 1c; Feb. 4, 1926, g. up 1c; k. up 1c; April 16, 1926, k. up 1c; April 24, 1926, k. up ½c; April 29, 1926, g. up 1c, k. up ½c; May 6, 1926, k. up ½c; May 17, g. and k. up 1c July 1, k. down 1c; July 3, k. down 1c; Aug. 13, k. up 1c; Aug. 24, k. up 1c.

Decatur, Ill.	19.2	21.2	...	16.0
E. St. Louis	18.1	20.25	...	15.1
Joliet	19.4	21.4	...	16.2
Peoria	19.2	21.2	...	16.0
Quincy	19.2	21.2	...	15.8
Davenport, Ia.	21.5	23.5	2.0	16.4
Des Moines	21.5	23.5	2.0	16.4
Keokuk	21.5	23.5	2.0	16.4
Sioux City	18.9	20.9	2.0	16.0
Duluth, Minn.	22.5	24.5	2.0	17.1
Minneapolis	22.2	24.2	2.0	17.1
La Cross, Wis.	22.2	24.2	2.0	16.9
Milwaukee	21.1	23.1	2.0	15.8
Madison	21.3	23.3	2.0	16.0
Detroit, Mich.	21.8	23.8	2.0	16.7
Grand Rapids	21.7	23.7	2.0	16.6
Saginaw	21.9	23.9	2.0	16.6
Evansville, Ind.	22.0	24.0	3.0	16.0
Ft. Wayne	22.4	24.4	3.0	16.4
Indianapolis	22.2	24.2	3.0	16.2
South Bend	22.4	24.4	3.0	16.4
Fargo, N. D.	23.9	25.9	2.0	19.1
Huron, S. D.	23.6	25.6	3.0	17.6
Sioux Falls	22.0	24.0	3.0	17.1
*K. C. Mo.	21.9	23.9	3.0	14.8
*Springfield	21.8	23.8	3.0	15.7
*St. Louis	20.6	22.9	2.5	15.5
*St. Joseph	21.0	23.0	2.5	15.4
‡Wichita, Kan.	19.8	21.8	2.0	15.3
Bartlesville, Ok.	20.8	22.8	3.0	15.3

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	21.0	15.5
V. M. & P. naphtha	23.0	16.5
Cleaners naphtha	21.0	17.5

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 18.0.
‡At all Kansas points a discount of 1 cent a gallon is allowed from the tankwagon postings on dumps of 50 gallons or more.

The following monthly rebate system is effective on tankwagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ½c; over 2,000 gallons, ¾c; over 3,000 gallons, 1c; over 6,000 gallons, 1½c; over 10,000 gallons, 2c. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

STANOLIND FURNACE OIL
(Standard Oil Co. of Indiana)

Less than 100 gallons	10.0
100 to 399 gallons	9.5
400 or more gallons	9.0

SOUTHWESTERN DISTRICT
***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Dallas, Tex.	†19.0	19.0	1.0	14.0
Fort Worth	†19.0	19.0	1.0	14.0
Houston	†21.0	21.0	1.0	14.0
San Antonio	†19.0	19.0	1.0	14.0
El Paso	†22.0	22.0	1.0	15.0
Texarkana	†20.0	20.0	1.0	15.0
Muskogee, Ok.	20.0	23.0	3.0	14.0
Oklahoma City	18.0	21.0	3.0	14.0
Tulsa	20.0	23.0	3.0	14.0
Little Rock	22.0	26.0	4.0	15.5
Ft. Smith, Ark.	22.0	25.0	4.0	15.5

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, ½c; over 2,000 gallons, ¾c; over 3,000 gallons 1c; over 4,500 gallons, 1¼c; over 6,000 gallons, 1½c; over 8,000 gallons, 1¾c; over 10,000 gallons, 2c. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1c; over 300 gallons, a month, 1¼c; over 400 gallons, 1½c; over 500 gallons, 1¾c; over 600 gallons, 2c. The same rule applies for annual purchases as in the tankwagon discounts.

†Magnolia maintains only a retail schedule in Texas with dealers and large consumers allowed a flat 3-cent discount.

CENTRAL SOUTH DISTRICT
Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
*New Orleans	20.5	23.5	2.0	15.0
Alexandria	20.0	23.0	2.0	16.0
Baton Rouge	19.0	22.0	2.0	14.5
LaFayette	20.0	23.0	2.0	15.5
Lake Charles	20.5	23.5	2.0	16.0
Shreveport, La.	19.0	22.0	2.0	15.0
Memphis, Tenn.	21.5	24.5	3.0	17.0
Chattanooga	23.5	26.5	3.0	17.5
Knoxville	23.5	26.5	3.0	18.0
Nashville	22.5	25.5	3.0	18.0
Bristol	24.0	27.0	3.0	17.5
Little Rock Ark	22.0	25.0	4.0	16.0

*Tax of 3c includes city tax of 1c.

SOUTHERN DISTRICT
Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlanta, Ga.	25.0	28.0	3.5	19.0
Augusta	25.0	28.0	3.5	19.0
Macon	25.0	28.0	3.5	19.0
Savannah	23.0	25.0	3.5	17.0
Birm'ghm, Ala.	22.0	25.0	2.0	18.5
Mobile	21.0	24.0	3.0	17.0
Montgomery	23.0	26.0	3.0	19.5
Clarksdale, Miss	23.0	26.0	4.0	16.5
Jackson	23.0	26.0	4.0	16.5
Natchez	22.5	25.5	4.0	16.0
Vicksburg	22.5	25.5	4.0	16.0
Jack'ville, Fla.	23.0	26.0	4.0	17.0
Miami	25.0	28.0	4.0	18.5
Pensacola	23.0	26.0	4.0	17.5
Tampa	23.0	26.0	4.0	17.0
Covington	24.0	27.0	5.0	18.0
Louisville	24.0	27.0	5.0	17.0
Lexington, Ky.	25.0	28.0	5.0	18.0

In addition to the state tax of 2c on gasoline, Montgomery has city tax of 1c on gasoline and ½c on kerosene. Prices in Georgia include ½c inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125c; in Alabama, an inspection fee of ½c on kerosene only.

ROCKY MOUNTAIN DISTRICT
Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Denver, Colo.	22.0	22.0	2.0	18.0
Pueblo	22.0	24.0	2.0	18.0
Casper, Wyo.	22.5	24.5	2.5	16.5
Cheyenne	23.5	25.5	2.5	18.0
Butte, Mont.	24.0	24.0	2.0	20.5
Helena	26.0	28.0	2.0	20.5
Salt Lake, Utah	26 0	28.0	3.5	19.0
Boise, Idaho	27.0	29.0	3.0	21.0
Albuquerque, N. Mex.	28.5	28.5	3.0	20.0

ATLANTIC COAST DISTRICT
Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlantic City	19.0	....	...	17.0
Newark, N. J.	19.0	21.0	...	17.0
Annapolis, Md.	21.0	....	2.0	17.0
Baltimore	21.0	24.0	2.0	17.0
Cumberland	21.0	24.0	2.0	17.0
Washington	21.0	24.0	2.0	17.0
Danville, Va.	23.5	....	4.5	17.0
Norfolk	23.5	26.5	4.5	17.0
Petersburg	23.5	26.5	4.5	17.0
Roanoke	23.5	26.5	4.5	17.0
Richmond	23.5	26.5	4.5	17.0
Charleston, W. Va.	22.5	26.5	3.5	17.0
Keyser	22.5	....	3.5	17.0
Parkersburg	22.5	25.5	3.5	17.0
Wheeling	22.5	25.5	3.5	17.0
Charlotte, N. C.	23.5	26.5	4.0	17.0
Hickory	23.5	....	4.0	17.0
Mt. Airy	23.5	26.5	4.0	17.0
Salisbury	23.5	26.5	4.0	17.0
Charleston, S.C.	24.5	27.5	5.0	17.0
Columbia	24.5	27.5	5.0	17.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT
Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Albany, N. Y.	21.0	....	...	18.0
*New York	21.0	....	...	18.0
Buffalo	20.0	....	...	18.0
Rochester	21.0	....	...	18.0
Syracuse	21.0	....	...	18.0
Boston, Mass.	21.0	....	...	18.0
Augusta, Me.	24.0	....	3.0	18.0
Manchester, N. H.	23.0	....	2.0	18.0
Burlington, Vt.	23.0	....	2.0	18.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tankwagon price.

NEBRASKA
Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Omaha	21.25	23.25	2.0	16.0
McCook	22.75	24.75	2.0	17.5
Norfolk	21.75	23.75	2.0	16.5
N. Platte	22.75	24.75	2.0	17.25
Scottsbluff	22.25	24.25	3.0	16.75

CALIFORNIA CRUDE PRICES
***Standard Oil Co.-Union Oil Co.**
(Effective March 11)

Gravity—	Long Beach Huntington Beach Richfield Brea-Olinda Rosecrans Torrance-Inglewood	Whittier La Habra Montebello	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge	Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria Ventura Salt Lake
14°	.85	.86	.75	.85	....	.75	.75	.85
15°	.87	.85	.75	.85	....	.75	.75	.86
16°	.90	.86	.75	.86	....	.76	.75	.85
17°	.94	.85	.76	.86	....	.76	.75	.85
18°	.98	.86	.75	.86	....	.75	.76	.85
19°	1.04	.87	.75	.87	....	.75	.76	.85
20°	1.10	.89	.82	.90	.89	.79	.78	.90
21°	1.16	.91	.90	.98	.91	.86	.81	.97
22°	1.32	.94	1.00	1.06	.94	.93	.85	1.04
23°	1.28	.97	1.11	1.14	.97	1.00	.89	1.11
24°	1.34	1.01	1.32	1.22	1.02	1.07	.93	1.18
25°	1.40	1.05	1.33	1.30	1.08	1.14	.97	1.25
26°	1.46	1.09	1.44	1.38	1.16	1.21	1.01	1.32
27°	1.52	1.13	1.56	1.46	1.24	1.28	1.05	1.39
28°	1.58	1.17	1.66	1.54	1.32	1.35	....	1.46
29°	1.64	1.21	1.77	1.62	1.40	1.42	....	1.53
30°	1.70	1.25	1.88	1.70	1.48	1.49	....	1.60
31°	1.76	....	1.99	....	1.60	1.56	....	1.67
32°	1.84	....	2.10	....	1.72	1.63	....	1.73
33°	1.92	....	2.21	....	1.84	1.70	....	1.79
34°	2.00	....	2.32	....	1.96	1.77	....	1.85
35°	2.08	....	....	....	2.08	1.84	....	1.92
36°	2.16	....	....	....	2.16	....	....	....
37°	2.24	....	....	....	2.24	....	....	....
38°	2.34	....	....	....	2.34	....	....	....
39°	2.44	....	....	....	2.44	....	....	....
40°	2.54	....	....	....	....	....	....	....
41°	2.64	....	....	....	....	....	....	....
42°	2.74	....	....	....	....	....	....	....

*Column 2—Long Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Brea-Olinda, 14 to 30 degrees; Torrance and Inglewood, 14 to 28; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 3—Whittier and La Habra crudes, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 4—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 6—Santa Fe Springs. Only Union Oil Co. posts below 24 degrees.
Column 9—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 35 degrees. Posted only by Union Oil Co.

PACIFIC COAST DISTRICT
Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
San Francisco	18.0	22.0	2.0	15.5
Los Angeles	16.5	20.5	2.0	15.5
Fresno	18.5	22.5	2.0	17.5
Reno, Nev.	23.5	27.5	4.0	19.0
Portland, Ore.	19.0	23.0	3.0	16.5
Seattle, Wash.	18.0	22.0	2.0	16.5
Spokane	22.0	26.0	2.0	20.5
Tacoma	18.0	22.0	2.0	16.5
Phoenix, Ariz.	25.0	28.0	3.0	21.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND
Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
*Pittsburgh, Pa.	20.0	25.0	...	17.0
*Philadelphia	20.0	25.0	...	17.0
*Scranton	20.0	25.0	...	17.0
*Allentown	20.0	25.0	...	17.0
Altoona	20.0	25.0	...	17.0
*Erie	20.0	25.0	...	17.0
Dover, Del.	22.0	25.0	2.0	17.0
Wilmington	22.0	25.0	2.0	17.0
Spring'd, Mass.	21.0	23.0	...	17.0
Worcester	21.0	24.0	...	17.0
Boston	21.0	24.0	...	17.0
Providence, R.I.	22.0	24.0	1.0	17.0
Hartford, Conn.	23.0	26.0	2.0	16.0
New Haven	23.0	26.0	2.0	17.0

*Pennsylvania tax of 2c is collected by the dealer and paid by him direct to the state.

TANKWAGON PRICE CHANGES

August 17.—Standard Oil Co. of Kentucky reduced tankwagon and service station prices of gasoline 1 cent at Louisville, Ky.

August 25—Continental Oil Co. advanced kerosene 1 cent in New Mexico with exceptions. Albuquerque included in advance.

August 26—Continental Oil Co. advanced kerosene 1 cent in Colorado, Wyoming and Montana and a half cent in Idaho and Utah.

CRUDE PRICE CHANGES

August 26.—Louisiana Oil & Refining Co. reduced Urania, La., crude 15 cents.

August 30.—Humble Oil & Refining Co. reduced Spindletop crude 35 cents a barrel following reduction of other major purchasers. The same company reduced Mirando crude 25 cents.

N. P. M. A. CHANGES

Sam L. Hunt, lubricating engineer with the National Petroleum Marketers Association, has resigned, effective September 15. He will become associated with the Armould Oil Co. of Quincy, Ill. J. Rome Battle will have charge of Mr. Hunt's work until his successor is appointed. Mr. Hunt's resignation follows that of Weston Atwood and J. L. Murray. Mr. Atwood had charge of the collective buying department of the association and Mr. Murray was employed in the marketing department.

BOUGHT BY TRANSCONTINENTAL

OKLAHOMA CITY, Okla., Aug.—30—Filling stations in Oklahoma City operated by the Oklahoma Lubricating Oil Co. and the Pat Henry Oil Co. have been sold to the Transcontinental Oil Co. and the latter now operates 21 stations in the city. Paul I. Johnston, the company's assistant sales manager, superintended the transfer and installations. H. J. Scott, general sales manager, and F. D. Shields, manager of the lubricating department, also were here.

LIBERTY BONDS FOR OSAGES

WASHINGTON, D. C., Aug. 28.—Purchase of $5,000,000 worth of Liberty Bonds for individual members of the Osage Indian tribe of Oklahoma was authorized at the Interior Department. The money represents accumulated funds derived from shares in oil royalties belonging to Osage children and other incompetent members. The bonds will bear interest of 4¼ per cent and will be held in the United States Treasury.

NEW PURE OIL OFFICIAL

The Pure Oil Co. has elected Rawleigh Warner of Chicago, treasurer and a director. Mr. Warner is associated with Dawes Brothers, Inc., of Chicago, as vice president and treasurer.

WAR *on* WASTE!

THE purpose of the Sinclair "Law of Lubrication" is to help the motorist lubricate his car to prevent *Waste of Power* and to maintain economical transportation. Read the law; know its soundness; know its simplicity; then consider its value for increasing your sales of motor oil.

May we show you the Law of Lubrication booklet which Sinclair dealers distribute to motorists?

SINCLAIR REFINING CO.
45 Nassau Street, New York

Atlanta Chicago Detroit Houston Kansas City Omaha

[*1916-26—Ten years of manufacturing and distributing petroleum products of quality*]

The SINCLAIR LAW *of* LUBRICATION

For every machine *of*
every degree *of* wear
there is a scientific
SINCLAIR OIL
to suit *its* speed *and*
seal its power. . . .

SINCLAIR
OPALINE
REG. U.S. PAT. OFF.
MOTOR OIL

SINCLAIR OILS
REG. U.S. PAT. OFF.

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VARIOUS METHODS OF RESTORING PRESSURE

(Continued from Page 30)

wells being old and of small production —is working out the line flood with some of its neighbors but has not yet taken a very active part in the new experiments with air, gas or soda ash that are being made in the field. It is taking advantage of the flood and its ancient properties have increased in value beyond the dreams of any of its officials. It has an immense acreage in the field and much of its property is well located to receive the advantage of flooding and it is doing its share of the drilling in the field. That this big company is willing to co-operate with a neighbor for their mutual benefit and is doing it to the satisfaction of all concerned, is an indication of what can be done in this field of a multitude of ownerships and small holdings towards consolidating an old pool. This same consolidation is working out satisfactorily in the oldest Oklahoma fields where the compressed air method of restoring pressure is being given a trial, but in Oklahoma, as in Bradford, it is not general. Working together reduces the number of wells to be used as water intake wells or air wells. Each operator has his fair share of the benefits of the air or water drive and it prevents all charges of unfair or unethical operating and makes for a better feeling between neighbors.

Flowing with air in the Bradford Field. Wells on this property are flowed twice a week, using 450 pounds of compressed air. It takes 10 to 15 minutes to empty the shot hole of its contents.

No Great Innovations

The manner of flooding the sands to reclaim production, dormant because the gas pressure has almost entirely gone, has not changed much in the last five years. The former custom of using perforated tubing in intake wells to let the water in from above and to let it out into the shot hole has been changed in the most modern operations, and now open couplings let the water in and out of the tubing. The open couplings and some minor improvements in tubing and packer installation comprise the changes in the method in vogue five years ago.

The Dunn-Lewis process, involving the use of compressed air or gas, which the Associated Producers Co. uses to a large extent and the Petroleum Reclamation Co. to a lesser degree, is being developed more certainly and more scientifically by degrees, but there have been no outstanding changes in its application to this field. That it is here to stay is conceded by even those who make no use of it and who prefer the water drive. It is an amusing fact that the adherents of the compressed air system of recovery are of the opinion that the air will be successful after flooding has exhausted its possibilities, while the friends of flooding believe that compressed air or gas should be used, or could successfully be used, before a flood, "but what is the use of compressed air at any time when you can get all the recoverable oil by flooding the sands?" they conclude.

Modern Methods in Operating

But while no marked improvements can be noted in the application of water or air, nevertheless the Bradford Field is being operated more scientifically and economically now than ever in its history. The younger element of native operators and the technical men who have invaded the field, as yet only in small number, are doing things which the old fellows thought could not be done.

Accompanying this article are a few illustrations which show what the modern operators are accomplishing. One photograph shows a power house on a lease of the Petroleum Reclamation Co. built on the side of a steep hill on one of the John Looker properties acquired by it last year. This power house is on a 25 per cent grade. It is 72 feet long and the gas engine is set about 18 feet higher than the bandwheel power. The power rests on a concrete foundation laid even with the steep grade of the hill and the power sets at the same grade. It was not thought good practice to set bandwheel powers on such a grade, the writer was informed, and had never been put into practice here until recently. Another photograph shows a power house at an opposite grade, with the engine house on the down side of the hill and the push-and-pull power set level with the contour of the hill on the up side.

New power house built to house a push-and-pull power on a hillside. This outfit, now complete and operating, supplanted old-fashioned method of operating the property.

Another view shows one of the Petroleum Reclamation Co.'s wells which is being flowed by air, a process considered superior to pumping, because it is said to recover a greater volume of production and at the same time keep the hole cleaned out. Most of these air-flowing wells are operated twice a week and then for only 10 or 15 minutes. The tremendous pressure of air, about 375 pounds, brings out every loose thing the hole contains.

Relic of Old Days

As a contrast one photograph is shown of what was left of a rig on an old Bradford property before it fell into the hands of a modern operating concern. Counterparts of this outfit, some a little less run down but others even more forlorn in appearance, were once common among the 20,000 or so wells in the field. As a rule they were in the woods, remote from the roads and generally on the hillside. This condition is seldom seen any more. Properties are better cared for and the use of individual steam engines at wells is now uncommon. Many of the old steam engines were converted into gas engines at local machine shops. They are called halfbreeds. Set up in power houses, equipped with hot tube, or a magneto where electric power is available, these halfbreeds prove powerful and satisfactory gas engines, cheap and serviceable.

The Next Improvement

Little attention has ever been paid to the spacing of wells in relation to structure for the reason that up to a short time ago Bradford operators, in common with the geological world, were ignorant of the fact that there was much if any variation in the structure. Panyity showed that the Bradford Field presented a well-defined dome structure, as was set forth in The Oil and Gas Journal last week, and Torrey of the United States Geological Survey at once confirmed this when he went over the field. Now both these geologists are hammering hard on the matter of studied well spacing both for water wells and pumping wells and are finding adherents among the most able of the younger generation of oil men.

There are some well trained and competent engineers owning and operating oil properties in this field and these along with the progressive producers without technical training, are willing to lend an ear to suggestions that may result in an increase in the production of their properties. Great benefit is expected to come out of the completion of the structure map of the field now being made by Torrey and his associates. Because of the lack of reliable well data in some parts of the field the map may be somewhat general in character in spots, but, as Torrey explains, it will be a basis for more detailed study in the future, now that good well logs are being carefully kept. The spacing of the wells and the direction of the flood will no doubt in the future be regulated to a great extent by what the map shows the producer.

The Life of the Field

The question is often asked outside the Bradford Field as to how long the field will last. Operators here vary in their belief, giving the Bradford and Allegany Fields from 50 to 100 years more of life. The extraordinary lubricating quality of the crude will always give it a ready market even though a cheaper substitute for gasoline is found in the years to come, so they are not afraid of a lack of a permanent market. The only source of uncertainty—one might say the only worry of the Bradford and Allegany oil man is the crude market price. Every practical oil man in the field knows to a cent just how much per barrel he must receive to break even. Above that dead line is profit. Below it is nightmare. Operating here is unlike operating in any other field in the United States. The hazard of drilling is minimized. Dry holes are so scarce as to be negligible. Within an 80,000 acre zone in the Bradford Field an operator feels safe in drilling a well. He can figure his drilling costs, his operating expense and his oil recovery, and not go far wrong in any case. Against that he figures his market price. At a certain average price per barrel he can tell just how long it will take the property to pay out, if it i a property recently acquired.

One cannot blame these men for not rejoicing when a Seminole Pool or a Panhandle or an Upton-Crane looms up. To them it is a black cloud in the sky —a threat of a tidal wave of oil that may engulf and wreck the crude price structure, and take them with it.

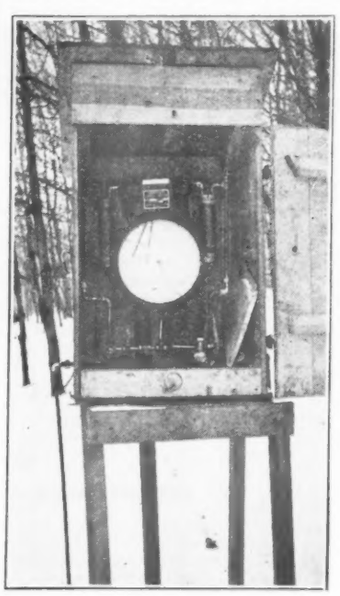
That they have full faith in the long life of the field and in the future of the oil business so far as it relates to this territory is made evident by the prices recently paid for acreage. Three years ago $1,000 per acre bonus was considered a stiff price. Then it went to $1,500 per acre and to $2,000 per acre. It is said there is not a property within the productive zone that can be bought for $1,000 an acre and that as high as $3,000 per acre has been paid for choice pieces in the richest of the flood areas.

These operators are not buying on a basis of present production of leases. If it is inside acreage they don't care if it is producing or not. They are buying the left-over content of the sands, secure in the belief that it contains about 20,000 bbls., or so, to the acre and that they can get a certain percentage of it out and sell it at a premium over the price of any other crude oil in the world. Here is a case in point. There is a lease in Richburg, N. Y., that was down to where it took 16 wells to produce a barrel of oil per day. It was bought and flooded and the production increased from one-sixteenth of a barrel to 2 bbls. per day per well. Its output was multiplied 32 times!

Some properties bought at the fancy prices above mentioned later paid for themselves in less than three years. It is no wonder the price of acreage has mounted.

Case of Frank Book

The other day I renewed acquaintance with Frank Book. He lives on his farm in Oil Valley, between Duke Center and Knapp Creek. Thirty-five years ago he was what might have been called a "struggling oil man." He had to "struggle" so hard, in fact, that he could not afford to hire help when he had a cleaning out job to do on his wells. But he had a jewel of a wife. (He has her yet.) It was long before the days of feminism, nevertheless Mrs. Book put on overalls and went onto the derrick floor and she and Frank did all the unpleasant work of cleaning out a string of wells. His farm is not a large one and as farms go is not much to brag about, because this is a poor farming country with its late springs and early frosts, but he refused



This meter, set up on a lease of the Petroleum Reclamation Co., registers the air pressure throughout the day, telling with pen and ink the gauge at any time within the 24-hour period.

$175,000 for a lease on it a short time ago.

"The flood hasn't reached me yet, and I haven't bothered making one," said Mr. Book, "but they will have to go higher than $175,000 for what's underneath where you and I are standing."

John Looker held out for his price, said to have been $1,500,000, and got it last year, and later told me in Tulsa that "he didn't know but he had sold too cheap."

Veterans Resting Up

Some of the most beautiful of Bradford's many fine residences are occupied by veteran oil men-farmers, who struggled for years trying to make both ends meet and to keep a lap ahead of the sheriff until the flood reached their properties and made them saleable at high prices. Then they moved in from the mountain, backwoods or Big Level leases, bought themselves fine homes and joined the Oil Men's Club or the Elks, and are now sitting around, "resting up."

The flood has enriched this city in many ways. Bradford was about ready for the boneyard at one time. Now it is one of the richest and busiest towns of 20,000 in the United States. There are more Rolls Royce cars here than there are in any city in Oklahoma and Pierce Arrows are a drug on the market.

Bolivar Booming

Old played-out towns like Duke Center, Bolivar and Richburg have taken on new life. Bolivar gave me the shock of my life. I had not been there since I was a small boy, which was in the boom days of the Bolivar-Richfield Field. I expected to find desolation and decay. Instead I found a well-built village of paved streets, substantial business blocks, fine homes, a good new hotel, public library, excellent church edifices, and as it was Saturday evening and the "boys" were in from the surrounding leases, crowded streets: a booming oil town as in the days of yore —minus the drunks. The flood remade Bolivar. Like the Bradford Field the Bolivar-Richburg area has more than doubled its production of 15 years ago and it can look ahead to many prosperous years.

WALL STREET THINKS OIL IS SAFE FOR YEAR

(Continued from Page 133)

Funded debt	21,244,767	26,544,333
Accounts payable	6,842,973	4,708,614
Notes payable	57,500	3,122
Federal taxes	917,116	1,062,500
Accrued liabilities	453,417	419,057
Deferred items	259,554	421,283
Ins. and other res...	5,335,122	5,031,604
Appropriated surplus	265,428	223,050
Capital stock of sub.	278,200	278,200
Less deficit of sub..	98,115	90,491
P. & L. surplus	29,483,957	25,324,749
Total	$135,039,519	$134,026,021

*After depreciation. †After depletion.

Union Tank Car

The Union Tank Car Co. for the six months ended June 30, 1926, reports profit of $1,567,159 after depreciation and reserves, equivalent after 7 per cent preferred dividend requirements to $4.67 a share earned on $24,564,400 common stock. This compares with $1,107,532, or $3.77 a share, on $18,202,300 common stock in the first half of 1925.

The income account for the six months ended June 30, 1926, compares as follows:

	1926	1925
Net after expenses	$3,398,095	$2,971,210
Depreciation	1,576,072	1,708,678
Net earnings	$1,822,023	$1,262,532
Reserves	254,864	155,000
Profit	$1,567,159	$1,107,532
Dividends	1,034,110	874,000
Surplus	$533,049	$233,532
P. & L. surplus	$9,149,225	$14,025,570

The balance sheet of the Union Tank Car Co. as of June 30, 1926, compares as follows:

Assets

	1926	1925
*Tank car equip.	$38,761,690	$41,635,279
Shop inventory	1,924,543	†1,745,214
Office furniture	19,919	26,608
Material	255,354	.....
Cash	779,520	$2,108,520
Marketable securities	3,699,401	.....
Accts. receivable	1,510,576	1,490,408
Total	$46,950,803	$47,060,029

Liabilities

Preferred stock	$12,000,000	$12,000,000
Common stock	24,564,400	18,202,300
Car trust notes	.....	1,500,000
Accounts payable	318,015	513,351
Reserves	919,163	818,808
Surplus	9,149,225	14,025,570
Total	$46,950,803	$47,060,029

*After depreciation.
†Includes material.
‡Includes marketable securities.

NORTH CENTRAL TEXAS

(Continued from Page 40)

W. Jackson and others A pumped 12½ bbls. in 24 hours at 1,560 feet.

Brown County

Dozier and others' No. 1 Cason made 75 bbls. of oil, 10 per cent water, at 1,520 feet. Gibson Oil Corp.'s No. 1 Carmichael made 2 bbls. at 2,011-71 feet, total depth 2,084 feet. Gilman & McMurray's No. 10 Teston was estimated good for 10 bbls. at 1,232-43 feet. Huffman's No. 5 Kilgore Brothers made 20 bbls. at 1,250-60 feet, total depth 1,268 feet. Humble Oil & Refining Co.'s No. 1 Fry made 84 bbls. at 1,318-22 feet; No. 2 Fry made 80 bbls. at 1,315-20 feet; No. 13 E. P. & W. H. Kilgore, 100 bbls. at 1,164-78 feet, total depth 1,181 feet; No. 6-C, 10 bbls. at 1,194-1,205 feet; No. 7-C made 300 bbls. at 1,159-82 feet; No. 8-C, 192 bbls. at 1,137-62 feet; No. 8-B J. C. Kilgore made 20 bbls. at 1,145-60 feet.

Kone Production Co.'s No. 2 Foster made 74 bbls. at 1,171-97 feet, total depth 1,199 feet. William Lester's No. 3 Fry made 207 bbls. initially at 1,314-17 feet. Louisiana Oil & Refining Co.'s No. 3 Henslee made 200 bbls. at 1,275-99 feet; No. 4 had a showing of oil in sand at 1,260-72 feet, total depth 1,330 feet and it was to be shot. McLester Oil Co.'s No. 7 Josie Wooldridge was shot with 20 quarts at 1,251-68 feet, total depth 1,269 feet and made 100 bbls. Midwest Exploration Co.'s No. 9 Suttles made 2 bbls. after a 20-quart shot at 1,138-53 feet. Prairie Oil & Gas Co.'s No. 3 Armstrong was dry and abandoned at 1,595 feet; No. 1 Johnson shot with 6 quarts at 1,285-94 feet, total depth 1,298 feet, made 20 bbls.; No. 1 Kilgore had a show of oil and water at 1,281-89 feet.

Rhodes & Higher's No. 11 Prater was dry at 1,342 feet, having dry sand at 1,320-38 feet. Root & Rhodes' No. 1 Buzbee was also a failure at 2,925 feet. Smith Oil Co.'s No. 1 Mullins was another duster at 1,605 feet. West and H-Y Oil Co.'s No. 5 Newton was shot with 30 quarts at 1,205-20 feet and made 60 bbls. afterward; No. 10 Newton was good for 100 bbls. at 1,194-1,213 feet. Arkansas Fuel Co.'s No. 1 Bettis was dry and abandoned at 1,436 feet. E. Morris' No. 1 Young was a failure at 450 feet.

Callahan County

Brown & Co.'s No. 3 Long made 50 bbls. at 1,384-96 feet. Evans and others' No. 1 Carey was dry and plugged at 1,602 feet. Prairie Oil & Gas Co.'s No. 5 Bond made 100 bbls. at 1,379-93 feet. T. B. Slick's No. 2 Bond also made 100 bbls. at 1,391-1,404 feet.

Clay County

Lone Star Gas Co.'s No. 22 Holloway was dry and abandoned at 1,820 feet.

Comanche County

Smith's No. 1 Turner was dry and abandoned at 1,504 feet.

Cooke County

C. C. Lanier's No. 4 A. Hyman made 95 bbls. at 1,246-74 feet. Maer & Staniforth's No. 1 school lot was dry and abandoned at 1,506 feet. Sun Oil Co.'s No. 1 A. Hyman swabbed 170 bbls. at 1,164-73 feet.

Eastland County

Humble Oil & Refining Co.'s No. 4 Parsons made 12 bbls. of oil and 1,500,000 feet of gas at 1,217-35 feet; No. 6 Parsons was dry and abandoned at 1,445 feet. Panhandle Refining Co.'s No. 2 Wright was dry and plugged at 1,620 feet. Parsons' No. 1 Robinson was shot with 70 quarts at 3,075-3,160 feet and made 3,000,000 feet of gas but was to drill deeper. The Texas Company's No. 1 Wright was dry and abandoned at 1,629 feet. Eastland Oil Co.'s No. 1 Proctor and others was dry after a shot of 200 quarts at 2,985-3,045 feet.

Jack County

Buttram Petroleum Co.'s No. 1 Cullers flowed 112 bbls. at 2,032-39 feet. Camp Oil & Gas Co.'s No. 1 Rounsaville was dry and abandoned at 1,010 feet. McClure and others' No. 1 Richards & Lanier was also a duster at 708 feet.

Montague County

Farland Oil Co.'s No. 2 Maddox had oil sand at 888-89 feet and was being put on the pump. F. H. E. Oil Co.'s No. 8 Hinds-A made 25 bbls. at 890-92 feet and broken oil sand at 896-910 feet; No. 3 Howard-A made 35 bbls. at 985-1,000 feet. Newblock Oil Co.'s No. 4 Maddox made 110 bbls. at 856-76 feet. Pure Oil Co.'s No. 2 Maddox-C made 127 bbls. at 885-907 feet. E. L. Smith Oil Co.'s No. 3 Maddox was shut in as a gasser making 13,000,000 feet of gas and spraying a little oil from sand at 898-900 feet and 905-12 feet. The Texas Company's No. 18 Gist-A made 62 bbls. at 867-91 feet and broken sand at 896-900 feet; No. 20 Gist-A was making 7,000,000 feet of gas while running 5-inch at 886 feet; No. 1 Howard-B made 54 bbls. at 1,156-71 feet, total depth in shale 1,173 feet; No. 2 Maddox-C was dry and abandoned at 2,128 feet. No. 14 Oldham swabbed 118 bbls. at 1,100 feet. Texhoma Oil & Refining Co.'s No. 2 Bouldin-A made 130 bbls. at 1,112-26 feet; No. 1 Maddox-A swabbed 55 bbls. in 7 hours at 884 feet and was rigging up pump; No. 6 Rowland swabbed 237 bbls. at 1,088-90 feet.

Gracey, Kahle and others' No. 1 Maddox made 80 bbls. at 881-96½ feet. Harris & Simons' No. 2 Maddox, 110 bbls. at 880-90 feet. Humble Oil & Refining Co.'s No. 5 Maddox sprayed 30 bbls. and 2,880,000 feet of gas at 894-97 feet. Pure Oil Co.'s No. 4 Oldham-A made 30 bbls. at 1,147-1,204 feet. The Texas Company's No. 1 Bouldin was temporarily abandoned at 2,025 feet; No. 17 Gist-A, 45 bbls. at 899-912 feet; No. 19 Gist-A, 55 bbls. at 865-903 feet; No. 1 Howard and others B, 40 bbls. at 1,156-71 feet, total depth 1,173 feet; No. 11 Oldham, 205 bbls. at 1,011-20 feet and 1,043-45 feet, 1,053-57, 1,059-68 and 1,071-79 feet with shale breaks; No. 12 Oldham, 102 bbls. at 1,014-89 feet, broken; No. 13 Oldham, 115 bbls. at 1,041-1,100 feet, the location for No. 3 Maddox-C was abandoned. Texhoma Oil & Refining Co.'s No. 8 Howard-A made 40 bbls. at 1,130-41 feet, total depth 1,147 feet.

Throckmorton County

Reiter-Foster Oil Corp.'s No. 1 Elliott flowed 30 bbls. in 3 hours by heads from the lime pay at 3,943-52 feet and was shut down to move boiler back before drilling in. Same corporation's No. 2 Stubblefield was abandoned at 4,332 feet because of a junked hole.

Shackelford County

Gibson & Johnson's No. 1 Dyer was dry and plugged at 1,356 feet. Jackson and others' No. 2 Flippen was also abandoned as dry at 666 feet. Roeser & Pendleton and Marland Oil Co.'s No. 23-A-84 Cook had a hole full of water at 1,370-78 feet. Roeser & Pendleton's No. 2-B-60 Cook flowed 500 bbls. at 1,253-71 feet; No. 1-B-61 Cook made 300 bbls. at 1,263-80 feet; No. 14-B-85 Cook made 60 bbls. at 1,241-51 feet. Skelly Oil Co.'s No. 1 Matthews had 1,500,000 feet of gas at 695-725 feet and was drilling at 744 feet.

Stephens County

Swensondale Oil Corp.'s No. 1-B Swenson was estimated good for 15 bbls. at 3,552-61 feet.

Wichita County

Kiel Chapman & Porter's No. 1 Keil was dry and plugged at 1,934 feet. Long and others' No. 1 Miller estate was dry and abandoned also at 2,000 feet. The Ascot Co.'s No. 7 Burnett was plugged as dry at 2,342 feet. R. R. Clark's No. 4 Ward & Todd was flowing 625 bbls. at 1,856-71 feet. The K. M. A. Oil Co.'s No. 26 Munger pumped 9 bbls. at 1,745-51 feet. C. F. Kolp's No. 1 Waggoner-AA pumped 5 bbls. at 862-72 feet. Petroleum Investment Co.'s No. 21 Fisher pumped 40 bbls. at 1,561-71 feet. Shappell Oil Co.'s No. 9 McCarthy was dry and abandoned at 1,189-92 feet. Texhoma Oil & Refining Co.'s No. 10 Burnett-E pumped 27½ bbls. of oil and 1 bbl. of water at 1,574-89 feet. Trinity Production Co.'s No. 17 Burnett was dry and abandoned at 506 feet.

Wilbarger County

Barkley & Meadows' No. 13 Stephens A pumped 10 bbls. at 2,327-47 feet, total depth 2,365 feet, after plugging back. Bridwell & Heydrick's No. 14 Stephens pumped 25 bbls. of oil and 5 bbls. of water at 2,272-98 feet. Empire Gas & Fuel Co.'s No. 46 Stephens was dry and abandoned at 1,435 feet. Humble Oil & Refining Co.'s No. 24 Castleberry pumped 50 bbls. estimated at 2,146-51 feet; No. 9 Waggoner K swabbed 108 bbls. in 12 hours at 1,867-81 feet; No. 7 Waggoner M pumped 76 bbls. at 2,322-40 feet; No. 11 Waggoner M pumped 60 bbls. at 2,352-62 feet, total depth 2,363 feet; No. 5 Waggoner-N pumped 8 bbls. at 2,316-62 feet in lime, total depth 2,363 feet. Milham Corp. of Texas' No. 4 Waggoner-L flowed 78 bbls. at 1,870-84 feet; No. 15 Waggoner-L pumped 200 bbls. at 1,924-36 feet and 1,892-96 feet. Miller Oil Co.'s No. 4 Waggoner was dry and abandoned at 2,487 feet. Phillips Petroleum Co.'s No. 7 Waggoner-D pumped 12 bbls. at 2,330-40 feet after plugging back to 2,348 feet from 2,865 feet; No. 3 Waggoner-IHH pumped 126 bbls. at 2,544-55 feet, total depth 2,570 feet; No. 11 Waggoner-QQ swabbed 150 bbls. at 1,874-80 feet; No. 1 Waggoner-AAA was dry and abandoned at 3,510 feet. Prairie Oil & Gas Co.'s No. 5 Waggoner-A pumped 60 bbls. at 2,289-91 feet, total depth 2,320 feet.

Wise County

Magnolia Petroleum Co.'s No. 2 Cassidy Southwestern Commercial Co. was dry and abandoned at 2,450 feet.

Young County

Barnes and others' No. 2 Brown made 20 bbls. at 549-660 feet. Collier's No. 1 fee was dry and abandoned at 600 feet; No. 2 fee made 50 bbls. at 578-81 feet; No. 3 fee was a failure and plugged at 635 feet. Evans and others' No. 3 Logan was dry and abandoned at 650 feet, having had dry sand at 570-80 feet. Hivick and others' No. 1 Prideaux was also a duster at 915 feet. Madden and others' No. 5 Benson swabbed 100 bbls. at 858-81 feet. Moran's No. 2 Graham-Stewart made 65 bbls. at 802-20 feet. Peeler and others' No. 1 Hankins was dry and plugged at 1,205 feet, with dry sand at 1,110-25 feet. Reed and others No. 5 Jack was a 6-bbl. well at 529-47 feet. Robert Oil Corp.'s No. 11 Jack made 40 bbls. of oil and 10 bbls. of water at 860-64 feet; No. 12 made 45 bbls. of oil and 10 bbls. of water at 860-74 feet; No. 1 Stewart made 114 bbls. in 14 hours at 804-29 feet. Simms Oil Corp.'s No. 1 Routan was good for 50 bbls. of oil and 5 bbls. of water at 866-69 feet. The Texas Company's No. 15 Beardon made 80 bbls. in 10 hours at 1,046-67 feet and 1,068-83 feet. Tidal Oil Co. and others' No. 2 Benson was estimated at 30 bbls. at 910-20 feet but was shut down temporarily. Nance & Lucas' No. 1 Bozer had 1,400 feet of oil in the hole at 1,922-51 feet and was being put on the pump. Pitzer & West's No. 2 Burgess made 75 bbls. at 2,196-2,206 feet; No. 3 Burgess also made 75 bbls. at 2,186-91 feet.

West Texas Completions

Crockett County

Humble Oil & Refining Co.'s No. 9 Powell made 122 bbls. at 2,665-75 feet on the pump. Gulf Production Co.'s No. 4 L. P. Powell A, Tract B, pumped 5 bbls. in the first 15 hours at 2,668 feet; No. 5 pumped 92 bbls. in the first 19 hours at 2,675 feet.

Howard County

Marland Oil Co.'s No. 2 Chalk bailed 20 bbls. at 1,214-25 feet and was drilling at 1,248 feet. There was a little water.

Mitchell County

The California Co.'s No. 6 H. C. Miller Lease 4, pumped 40 bbls. at 2,985-3,060 feet; No. 2 C. M. Adams, Lease 3, was shot with 320 quarts at 2,945-3,071 feet, total depth 3,086 feet and made 60 bbls. afterward. Top of the pay was 2,930 feet.

Rearan County

Texon Oil & Land Co.'s No. 6 University, Group 1, pumped 75 bbls. at 2,910-15 feet.

Upton County

Marland Oil Co.'s No. 10 Burleson

pumped 310 bbls. the first 24 hours at 2,168-85 feet; No. 11 plugged back from 2,250 feet to 2,210 feet and shot with 180 quarts at 2,170-2,210 feet. When put on the pump it made 130 bbls. No. 12 pumped 160 bbls. at 1,084-2,130 feet. The Texas Company's No. 1 Union Land Co. was dry and abandoned at 3,082 feet; No. 3 King flowed 738 bbls. at 2,045-73 feet; No. 2 A. S. Burleson swabbed 82 bbls. at 2,174-2,218 feet.

PRODUCTION BY FIELDS FOR WEEK ENDING AUGUST 23

Electra	
Atlantic Oil Producing Co.	57
Empire Gas & Fuel Co.	771
Gulf Production Co.	925
Humble Oil & Ref. Co.	142
Magnolia Petroleum Co.	3,360
Panhandle Refining Co.	42
Phillips Petroleum Co.	15
Prairie Oil & Gas Co.	105
Rio Bravo Oil Co.	515
The Texas Company	3,405
Texhoma Oil Refining Co.	1,215
Miscellaneous	5,400
Total	15,952
Burkburnett	
Gulf Production Co.	440
Humble Oil & Ref. Co.	445
Magnolia Petroleum Co.	2,566
Panhandle Refining Co.	220
Prairie Oil & Gas Co.	20
Simms Oil Co.	18
Sinclair Oil & Gas Co.	45
Skelly Oil Co.	170
Sun Oil Co.	45
The Texas Company	387
Texhoma Oil & Ref. Co.	526
Miscellaneous	7,225
Total	12,107
Iowa Park	
Atlantic Oil Producing Co.	58
Gulf Production Co.	117
Humble Oil & Ref. Co.	120
Magnolia Petroleum Co.	220
Panhandle Refining Co.	35
Roxana Petroleum Corp.	7
Simms Oil Co.	89
The Texas Company	188
Texhoma Oil & Ref. Co.	568
Miscellaneous	2,700
Total	4,202
Wilbarger	
Atlantic Oil Producing Co.	55
Empire Gas & Fuel Co.	929
Gulf Production Co.	54
Humble Oil & Ref. Co.	2,827
Phillips Petroleum Co.	5,953
Prairie Oil & Gas Co.	143
Roxana Petroleum Corp.	395
The Texas Company	22
Texhoma Oil & Ref. Co.	79
Tidal Oil Co.	10
Miscellaneous	4,000
Total	14,467
Archer	
Atlantic Oil Producing Co.	230
Barnsdall Oil Co.	780
J. S. Cosden, Inc.	368
Empire Gas & Fuel Co.	529
Gulf Production Co.	2,351
Humble Oil & Ref. Co.	1,128
Independent Oil & Gas Co.	7
Magnolia Petroleum Co.	1,503
Marland Oil Co.	652
Panhandle Refining Co.	130
Phillips Petroleum Co.	565
Prairie Oil & Gas Co.	1,870
Roxana Petroleum Corp.	280
Simms Oil Co.	794
Sun Oil Co.	275
The Texas Company	3,229
Texhoma Oil & Ref. Co.	2,734
Tidal Oil Co.	35
Miscellaneous	12,000
Total	29,460
Young	
Atlantic Oil Producing Co.	523
J. S. Cosden, Inc.	240
Gulf Production Co.	215
Humble Oil & Ref. Co.	268
Magnolia Petroleum Co.	140
Marland Oil Co.	2
Mid-Kansas Oil & Gas Co.	10
Panhandle Refining Co.	130
Phillips Petroleum Co.	28
Prairie Oil & Gas Co.	8
Roxana Petroleum Corp.	135
Simms Oil Co.	565
Sinclair Oil & Gas Co.	350
Sun Oil Co.	325
The Texas Company	348
Texhoma Oil & Ref. Co.	365
Tidal Oil Co.	82
Miscellaneous	4,675
Total	8,309
Stephens	
Arkansas Fuel Oil Co.	25
Empire Gas & Fuel Co.	25
Gulf Production Co.	1,108
Humble Oil & Ref. Co.	595
Magnolia Petroleum Co.	240
Mid-Kansas Oil & Gas Co.	1,425
Phillips Petroleum Co.	375
Prairie Oil & Gas Co.	755
Republic Production Co.	135
Roxana Petroleum Corp.	50
Simms Oil Co.	30
Sinclair Oil & Gas Co.	75
Sun Oil Co.	165
The Texas Company	950
Texas Pacific Coal & Oil Co.	1,150
Miscellaneous	4,240
Total	11,443
Shackelford	
Amerada Petroleum Corp.	5
Empire Gas & Fuel Co.	20
Humble Oil & Ref. Co.	1,380
Independent Oil & Gas Co.	10
Magnolia Petroleum Co.	65
Phillips Petroleum Co.	575
Prairie Oil & Gas Co.	10
The Texas Company	165
Texhoma Oil & Ref. Co.	75
Miscellaneous	8,175
Total	10,480
Ranger	
Arkansas Fuel Oil Co.	5
Gulf Production Co.	603
Humble Oil & Ref. Co.	40
Magnolia Petroleum Co.	550
Mid-Kansas Oil & Gas Co.	110
Panhandle Refining Co.	125
Phillips Petroleum Co.	15
Prairie Oil & Gas Co.	550
Republic Production Co.	40
Simms Oil Co.	20
Sinclair Oil & Gas Co.	285
The Texas Company	145
Texas Pacific Coal & Oil Co.	790
Transcontinental Oil Co.	30
Miscellaneous	2,435
Total	5,743
Eastland-Comanche	
Empire Gas & Fuel Co.	5
Humble Oil & Ref. Co.	85
Magnolia Petroleum Co.	575
Mid-Kansas Oil & Gas Co.	140
Phillips Petroleum Co.	40
Prairie Oil & Gas Co.	90
Sinclair Oil & Gas Co.	15
Skelly Oil Co.	130
The Texas Company	105
Transcontinental Oil Co.	20
Miscellaneous	675
Total	1,880
Brown	
J. S. Cosden, Inc.	550
Humble Oil & Ref. Co.	3,430
Phillips Petroleum Co.	200
Prairie Oil & Gas Co.	625
Simms Oil Co.	25
The Texas Company	760
Witherspoon Oil Co.	20
Miscellaneous	5,990
Total	11,600
Callahan	
Amerada Petroleum Corp.	125
Humble Oil & Ref. Co.	3
Prairie Oil & Gas Co.	850
The Texas Company	95
Texas Pacific Coal & Oil Co.	20
Miscellaneous	3,625
Total	4,718
Miscellaneous Pools	
Reagan County	28,809
Clay County	554
Montague County	6,955
Jack County	225
Throckmorton County	2,240
Baylor County	161
Palo Pinto County	446
Coleman County	1,915
Scurry County	46
Mitchell County	3,646
Crockett County	1,137
Crane County	708
Upton County	3,775
Howard County	296
Cooke County	266
Total	50,279
Panhandle	
Carson County	2,792
Hutchinson County	98,743
Wheeler County	275
Gray County	3,950
Potter County	30
Total	105,790
Grand total	286,430

TEXAS PANHANDLE

(Continued from Page 39)

R. C. Barnum	1	0
Canadian River Oil Co.	4	310
Canyon Oil & Gas Co.	2	3,300
Centerfield Oil Co.	1	0
Coble-Whittenberg	3	1,225
Currie Bros. & Phillips	1	1,705
Cockrell-McIlroy	2	1,250
Derby Oil Co.	3	490
Devonion Oil Co.	3	550
Dixon Creek Oil Co.	21	10,125
Double 5 Oil Co.	1	75
Douglas Oil Co. & Cline	1	20
Dunnigan and others	3	1,315
Echo Oil Co.	2	500
Empire Gas & Fuel Co.	4	1,055
Fly-Blackburn Oil Co.	1	205
Gates Oil Co.	4	240
Golding & Phillips	1	20
Gulf Production Co., Panhandle & Cline	19	4,250
Gulf Production Co.	11	4,775
Heywood and others	2	115
J. K. Hughes Development Co.	11	1,550
Holmes-Currie & McKnight	2	340
W. H. Holmes	1	200
Dan A Jophet	2	470
J. H. Lennix	1	15
Lennix & Patterson	1	850
Lucky 10 Oil Co.	1	980
Marland Oil Co.	19	18,250
Midwest Exploration Co.	5	550
McMan Oil & Gas Co.	8	8,775
McIlroy & Herring	4	600
S. D. & W. H. McIlroy	3	850
McIlroy Brothers et al	3	360
J. E. Middleton	3	60
Murchison & Fain	1	350
Newby Oil Co.	1	50
New Domain Oil Co.	3	170
Phillips & Heywood	1	500
J. E. Phillips-Weatherly	1	20
Phillips Petroleum Co.	45	23,285
Prairie Oil & Gas Co.	10	2,725
Relief Oil Co.	2	505
Riley & Holmes	1	340
Roxana Petroleum Corp.	6	1,705
Ryan Petroleum Corp.	2	345
Shamrock Petroleum Co.	1	195
Skelly Oil Co.	10	2,016
Skinex Oil Co.	3	1,410
J. L. Smith	1	70
Smith & Bynum	2	125
Spring Creek Oil Co.	3	935
Summit Oil Co.	2	410
Sunny Jim Oil Co.	5	625
Sunburst Oil Co.	2	450
Travelers Oil Co.	2	525
Triangle Oil Co.	1	1,525
J. D. Ward (Shell)	1	80
J. D. Ward and others	1	0
Westex Oil Co.	6	2,625
White Eagle Oil & Refining Co.	10	1,890
J. O. Whittenberg	1	0
Total Hutchinson County	290	109,280
Average per well		377
Carson County		
Amarillo Oil Co.	1	0
American Refining Co.	5	450
Gates Oil Corp.	1	10
Gulf Production Co.	12	395
Marland Oil Co.	11	2,080
W. W. Silk and others	2	75
Skelly Oil Co.	2	90
Sunny Jim Oil Co.	2	50
The Texas Company	9	235
Total Carson County	45	3,385
Average per well		75
Gray County		
Empire Gas & Fuel Co.	1	10
Shamrock Petroleum Co.	2	1,250
Wilcox-Pampa Oil Co.	5	2,485
The Texas Company	1	5
Total Gray County	9	3,750
Average per well		416
Potter County		
Amarillo Oil Co.	1	30
Wheeler County		
Gibson Oil Corp.	1	75
Continental Oil Co.	2	155
Midwest Exploration Co.	3	15
Upham Gas Co.	1	0
Total Wheeler County	7	245
Average per well		35
Grand Total Panhandle	352	116,690
Average per well		331
Average per well last week		318
Total Panhandle 4 weeks ago	246	80,748
Average per well 4 weeks ago		328

STRENGTH IN KEROSENE INDICATES WITHDRAWALS

(Continued from Page 39)

approaching shortage of the heavier product. When this shortage materializes, the refiner will turn back to the crude oil market.

In as much as there has been a comparatively small withdrawal of crude from storage in recent months, the situation seems to point to an early withdrawal of much larger proportions, provided production does not show too large an increase. This withdrawal will be caused by the action of refiners in transferring crude from field storage to refinery tanks, to be run in place of the substitute stocks.

The Kerosene Situation

Experts can see no better explanation of the advance in kerosene prices than that of its being withdrawn from the ordinary channels of consumption by the refiners themselves. Certainly the export demand would not explain it, as this has not increased so considerably. Although kerosene is being used on a much larger scale in tractors and some other types of motor vehicles, and also as a fuel for oil burners, the gain in consumption is not believed to have been heavy enough to cause the advance in prices. Of course this is not the season of heavy home oil burner consumption. Kerosene as an illuminant certainly is not gaining any ground in this country.

An important angle of the situation lies in the fact that although stocks of kerosene have been decreasing, output has not increased to any extent during the past year. If kerosene were in demand for itself, doubtless the tendency on the part of refiners would be to increase production of it.

In May, 1926, for instance, the production of kerosene amounted to approximately 218,000,000 gallons, while in the same month of 1925 output was 202,000,000 gallons, an increase of 16,000,000 gallons. In the year ended May, 1926, stocks on hand had declined from 451,000,000 to 310,000,000 gallons, or to the extent of 141,000,000 gallons.

The domestic demand in May, 1926, was only 136,000,000 gallons as against 127,000,000 gallons in the same month of 1925; while exports totaled 68,000,000 gallons this year, as against 56,000,000 gallons in May last year. This is a gain of only 9,000,000 gallons in domestic consumption and 12,000,000 gallons in exports.

The Government statistics for June show much the same situation as those for May. An analysis of the June figures shows a gain in production of kerosene of 394,000 bbls. as compared with June, 1925. Domestic consumption increased 406,000 bbls., and exports decreased 55,000 bbls., a net gain of 351,000 bbls. in aggregate consumption. Although the gain in output was larger, the actual output in June was smaller than the consumption, and stocks were proportionately reduced, namely, by 499,000 bbls.

The feature, then, is that production of kerosene has failed to keep abreast with consumption; not, however, because consumption has increased so remarkably, but largely because a great deal of what would formerly have been left as straight kerosene is now being converted into gasoline at refineries.

About one-third of the gasoline now being produced is done so through cracking, according to some authorities. On the Atlantic Seaboard almost half the gasoline produced comes not directly from crude oil, but from cracking stock in the form of kerosene, gas oil or fuel oil. Although this is a clear example of the value of cracking, or of improved refining methods, whichever you may wish to call it, it is worth noting that only so long as cracking stock is readily available can this method of production be made effective.

Incidentally, the fact is that stocks of gas and fuel oil east of California have been declining quite rapidly, as well as have stocks of kerosene. This is further indication that ultimately we will reach, temporarily, the end of our cheap "cracking" stock.

While prices of gas and fuel oil have not shown the strength displayed by kerosene, still the general price structure of all of the heavier products has remained steadier than in 1925 or in the two years prior to that. Gas oil at the Atlantic Seaboard is pretty close to the postwar high of 7 cents a gallon.

COURT DISMISSES SUIT AGAINST SINCLAIR

(Continued from Page 132)

no experiments were actually made of the Jenkins process at Coffeyville and this is cited in the court's decision, pointing out that the case is not a so-called patent suit and that no infringement is in question, but that it is a question of what the defendant has that belongs to the plaintiff under the contract. The court points out that the Isom patent would have to be shown to consist mainly at least of improvements on the Jenkins process to entitle the plaintiff to an assignment.

The opinion states "Isom bases his claim to an independent invention principally upon his upright tubes which are absent from the Jenkins apparatus. The two processes are far more distinct than is Isom from the prior art which he is shown to have been familiar with."

The opinion further states, "an immense amount of evidence was put in relative to the sources from which Isom drew his inspiration for his invention. It is not desirable or possible to even summarize it here. Isom himself was on the stand for about a week. He testified definitely and in detail of his prior conception of his invention. It developed that he had investigated and studied oil cracking processes for some years, that being his business and in the course of his work acquired information as to 30 or 40 different systems. His principal object was to solve the carbon problem. He described in detail systems with which he was familiar prior to Jenkins such as Benton, Clark, Seeger, Smith and many others, several of which had features which were manifestly the ancestors of the ideas incorporated into the Isom patent. He testified that in the spring of 1915 he finally got the conception of the invention which was finally embodied in the Isom patent and that later in that year he made a disclosure of it to his father, and he is to some extent corroborated in that. This was more than a year prior to any knowledge of the Jenkins process. In the fall of 1916 after he had knowledge of the Jenkins process he built an experimental still to illustrate his patent. In regard to his contract with Jenkins, I incline to theory that Isom got all the information he could from the Jenkins process and turned it down as impracticable. He never saw the apparatus work and did not believe it would work. He returned to his preconceived ideas based on Clark and others prior to Jenkins and went ahead with his invention which was the outgrowth of these ideas."

It is understood the plaintiff company will appeal the case.

CRUDE OIL PRICES

(Continued from Page 135)

pany in Caddo, Bull Bayou, DeSoto, Crichton and Smackover.

*Posted by the Atlantic Oil Producing Co. †Posted by the Gulf Pipe Line Co. §Posted by the Louisiana Oil Refining Corp.

ROCKY MOUNTAIN STATES

Ohio Oil Co.—Midwest Refining Co.
(Effective May 17)

Rock Creek (Wyo.)	$2.25
Salt Creek—	
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° and above	2.37
Big Muddy	2.25
Mule Creek	1.75
Grass Creek, light	2.40
Grass Creek, heavy	.90
Elk Basin	2.40
Lance Creek	2.40
Rex Lake	1.45
Osage	2.40
Lost Soldier (contract)	1.35
Greybull-Torchlight	2.15
Hamilton Dome	1.35
Cat Creek (Mont.)	2.40
Sunburst (Mont.) (May 6)	1.05
Florence (Colo.)	1.60
Artesia	1.95
Hogback (N. Mex.)	2.45

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective March 8)

Penna Grade Oil in New York Transit Lines (New York)	$3.40
Bradford District Oil in National Transit Lines (Pennsylvania)	3.40
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in Southwest Pa. Lines (West Virginia)	3.30
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.25
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.05
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 17)	2.40
Corning Grade Oil in Buckeye Pipe Line Lines (Ohio) (May 22)	2.55
Somerset Medium Oil in Cumberland Pipe Line Lines (Kentucky) (May 17)	2.50
Somerset Light Oil in Cumberland Pipe Lines (Kentucky) (May 17)	2.65
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (May 19)	1.25
Gaines (Pennsylvania) (Apr. 27)	2.85
Keister (Pennsylvania) (Feb. 15)	2.30

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 17)

Lima	$2.48
Wooster	2.55
Illinois	2.37
Indiana	2.25
Princeton	2.37
Plymouth	1.90
Waterloo	1.35
*Western Kentucky, 32.9° and below (May 18)	2.10
33° to 35.9° (May 18)	2.20
36° to 38.9° (May 18)	2.30
39° and above (May 18)	2.40
†Cumberland, Barren and Monroe Counties, Ky., (May 17)	2.65
**Oil in lines of Stoll Oil Refg. Co. in Oil City, Ky.	2.65
**Oil in lines of Stoll Refg. Co. in Tinsley Bottom, Tenn.	2.46
§Oil Springs (Canada) (May 18)	2.95
§Petrolia (Canada) (May 18)	2.88

**Posted by Stoll Oil Refg. Co.
*Posted by Indian Refining Co.
†Posted by Paragon Development Co.
§Posted by Imperial Oil Co., Ltd.

MEXICO
(Effective May 13)

*Tuxpam light (f.b.o. Mex. ports)	$1.35
§Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.328c tax. §17.631c tax.

OKLAHOMA GASOLINE TAKES UPWARD TURN

(Continued from Page 28)

for a good month during September.

During the week there was a very marked improvement in the gasoline situation in other areas of the Mid-Continent, principally north Texas, Louisiana and Arkansas which may permit Oklahoma gasolines to strengthen. Group 3 refiners for some time have been reported as being in a good statistical position, their market being weakened by cheap material offered on northern and middle western markets from these other areas.

Expect Good Month

Last year, September was a month of sharply advancing gasoline prices, and with the start already made refiners are looking forward to a repetition of last September's markets this month. Although there may be no sensational or other large buying refiners are of the opinion that with favorable motoring weather there will be a continued steady demand to strengthen the market.

However, gasoline markets for the country as a whole still are far from being entirely satisfactory and as a result continue to act as a rein on Group 3 and Mid-Continent upward trends. Although the situation may be changed in a short time the advancing Group 3 market will gradually move the eastern limits of its marketing district farther and farther west.

As an illustration of the extent to which eastern gasoline is competing with Group 3 material, a few specific instances of sales of Pennsylvania gasoline made in Ohio, Indiana and Michigan the past week can be cited. Pennsylvania gasoline was laid down in Cleveland, Ohio, according to a report here, on a basis of 9.84 cents Group 3. In Indianapolis, Ind., it was sold on a Group 3 basis of 11.6 cents and in Detroit, Mich., on a basis of 10.167 cents.

Considering these conditions, refiners are looking to developments this week, particularly the jobber demand, and Labor Day holiday consumption, to determine the real market trend during September. It is believed confidently by refiners that the strengthening of all refined products at this time is forestalling for the time being a crude or tankwagon reduction, and with this out of the minds of the buyers a period of good markets may follow.

Gasoline and Naphtha

With the better demand for the U. S. Motor (58-60 437) material, all grades of gasoline and naphtha were fractionally higher Tuesday than a week ago. Monday many of the larger refiners advanced their quotations to the trade to 11¼ cents and others were following this lead Tuesday, although there still was gasoline available at 10¾ cents. The 56-58 450 gasoline was not especially active, but few sales below 10½ cents were reported. Refiners also were getting 10¾ cents in most cases for their naphtha (50-52 450).

Higher gravity gasolines continued slow but prices were slightly advanced in sympathy with the strengthening of U. S. Motor markets. Several options were pending for 60-62 400 gasoline at 11¼ cents, but the going quotations Tuesday were at 11⅜ to 11½ cents, with the 64-66 375 material at 11⅝ to 11¾ cents. What little 68-70 360 gasoline was made was disposed of from 12 to 12¼ cents.

Natural Gasoline

Natural gasoline trends continued upward. Sellers reported being able to get 10¼ cents Tuesday for Grade A and 10 cents for Grade B. Buyers could obtain either for a quarter to an eighth cent less, although the supplies were said to be limited. Grade C brought 9¾ cents easily. The demand for natural gasoline, as mentioned, has been increasing steadily, although no large orders have been reported.

Kerosene and Distillates

Except for a half cent advance in kerosene, there has been no general change in the kerosene or distillate situation during the week. Both products continued scarce. A sale of 50 cars of 44 gravity doctor test kerosene by Chestnut & Smith Corp. was one of the important deals of the week. The kerosene, although in storage two years at the Chestnut & Smith shut-down refinery at Sand Springs, brought 10 cents. The 41-43 water white material was obtainable in limited amounts from marketers at 9½ cents, but refiners could get business at 9¾ cents.

Fuel Oil and Gas Oil

The fuel oil and gas oil situation has been explained. Practically all grades were at least 5 cents higher Tuesday than on the preceding Tuesday although a slackening in inquiries was noticed. All grades were scarce limiting spot trading materially and many refiners still were unable to promise even deferred shipment. Sellers were able to get a minimum of $1.35 for low gravity material, with 22-26 at $1.40 to $1.42½; 24-26 quoted from $1.45 to $1.50; 26-28 at $1.55 to $1.60.

Some buyers expressed the opinion that gas oil was easier and reported some lower quotations. Sellers, on the other hand, did not agree with this and reported they could sell overhead cracking stock at 4½ cents as formerly. Dark gas oil was available at 4⅛ to 4¾ cents and some straw material was found for as low as 4¼ cents.

Lubricants and Wax

Lubricants were unchanged. A steady movement continued in neutrals and bright stocks were especially in demand. Cylinder stocks were slower from some sources. Wax continued inactive.

WISER-AMITY MERGER

Announcement of the proposed merger of the Wiser Oil Co. and Amity Gasoline Co. was made at a recent directors' meeting of the companies, following a joint meeting of the Amity and Wiser committees, consisting of President E. A. Durham, J. P. Flynn, George S. Bradfield and Paul W. Neuenschwander, representing the Wiser Oil Co., and President W. L. Sutton, J. W. Cushing, W. H. Fitzgerald and A. C. Jackson, representing the Amity Gasoline Co. A distribution of 10 cents a share is to be made to stockholders of the Amity Gasoline Co. and the remaining assets are to be sold to the Wiser Oil Co. for $355,722.30, in Wiser Oil Co. stock. The Amity was first known as the Amity Oil Co. and was organized April 9, 1913. On June 15, 1917, the name was changed to Amity Gasoline Co. All of the Amity plants are located in Oklahoma and gas is secured from Wiser leases for the extraction of gasoline. The entire production is sold under contract to Chestnut & Smith Corp.

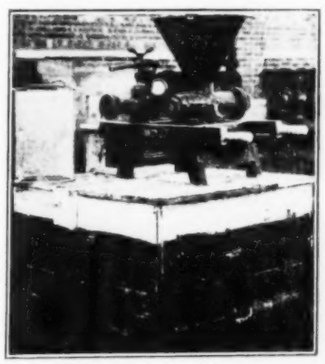
BAYONNE PROMOTIONS

NEW YORK, Aug. 31.—C. O. Meyer has been promoted from general superintendent of the Bayonne refinery of the Standard Oil Co. of New Jersey to assistant general manager of the plant. He has been succeeded by C. F. Smith. C. L. Waite will be assistant to Mr. Smith.

NEW PORTABLE UNIT FOR FIRE FIGHTING

Several refineries in the Mid-Continent Field have installed as part of their fire fighting equipment a portable Amdyco unit which was recently placed on the market. The unit is said by refiners to supply the need for equipment which could be easily moved close to the scene of the fire and at the same time furnish a large liquid capacity for fighting the fire.

The unit shown in the accompanying photo is used at the Wichita, Kans. refinery of the Derby Oil Co. The unit can be carried easily by two men. In use



it is quickly carried as near the fire as possible. Connection is then made to a water line. A hose connection is also made to the outlet on the opposite side of the unit.

As water is passed through the unit, a powdered chemical is brought in contact with the water by pouring it into the cone-shaped container. This forms a foamy liquid which has been found to be a very effective agent in putting out fires around refineries. Pressures up to 150 pounds can be used.

In the past the usual complaint made by operators was that the chemical capacity of their equipment was insufficient if it was portable. Water and a supply of the chemical are the only limitations in the use of the new unit. The Foamite-Childs interests recently made arrangement to distribute the Amdyco products.

MAY DECLARE EMBARGO IN THE BRADFORD FIELD

OIL CITY, Pa., Aug. 31.—On account of the lessened demand for Bradford crude oil carried through the National Transit Co.'s line, an embargo in the Bradford Field may soon be declared by the National Transit Co., officials here said today. The producers have been selling their oil freely but the amount which has been bought has been considerably decreased on account of the destruction by fire recently of the refinery of the Warren Refining Co. Another reason for the condition is increased production of crude in the Bradford district.

CHARTER ISSUED

OKLAHOMA CITY, Okla., Aug. 30.—A charter has been issued to the Tulsa Oil Co., of Tulsa, capital stock $75,000, Johnson D. Hill and others, incorporators.

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

		Month of July		Seven Months Ended July	
		1925	1926	1925	1926
Crude petroleum	Gals.	53,351,707	72,490,691	331,641,951	390,515,922
	$	2,376,042	3,102,602	14,232,526	16,900,174
Total refined	Gal.	323,733,411	340,886,733	2,263,885,523	2,593,167,431
	$	35,667,012	40,610,246	244,928,733	289,457,911
Gasoline, naphtha and other light products	Gal.	104,914,413	152,114,055	731,102,041	1,068,364,442
	$	17,339,848	22,655,376	113,501,920	158,717,205
Illuminating oils	Gals.	72,175,172	67,515,511	486,845,520	492,121,381
	$	6,633,818	7,715,129	47,497,314	53,064,769
Gas and fuel oils	Gals.	113,806,143	89,324,473	801,080,955	792,789,039
	$	4,359,616	2,933,239	30,052,994	24,503,772
Lubricating oils	Gals.	32,700,831	30,763,851	243,344,368	232,621,957
	$	7,302,371	7,125,268	53,615,046	52,001,212
Other refined petroleum products		136,852	1,168,843	1,512,639	6,260,612
	$	31,359	181,234	261,459	1,170,955
Paraffin wax	Lbs.	26,593,581	30,767,962	182,694,917	196,370,597
	$	1,505,605	1,662,662	10,150,917	10,946,028

XUM

INITIAL PRODUCTION IN AUGUST SHOWED EFFECT OF SPINDLETOP

The big wells completed in the Spindletop Pool in the Gulf Coast area of Texas during August showed their effect upon the initial production of all wells completed in the fields east of California during that month, the flush production during August showing an increase of 20,052 bbls. over that of July, although there were 141 less wells completed during the later month. The report for the different fields for August follows:

SUMMARY OF ALL FIELDS
Summary of Wells Completed

Field--	Comp.	Prod.	Dry	Gas
Eastern	500	2,596	69	7
Central Ohio	54	300	16	29
Lima	38	549	4	0
Indiana	33	631	6	8
Michigan	11	157	3	0
Illinois	34	605	13	1
Kentucky	112	1,826	21	2
Tennessee	1	500	0	0
Kansas	222	11,057	77	9
Oklahoma	539	75,449	169	45
N. Cen. Texas	490	26,509	187	6
Panhndle Tex.	107	67,915	2	2
E. Cen. Texas	25	22,093	11	0
W. Cen. Texas	43	4,937	14	0
Gulf Coast	105	93,475	28	2
SW Texas	81	12,577	11	5
Arkansas	104	4,843	23	7
N. Louisiana	110	5,778	38	15
Wyoming	47	5,288	4	1
Montana	48	5,779	12	3
Colorado	7	320	2	1
N. Mexico	15	900	4	0
Total Aug.	2,726	344,084	714	143
Total July	2,867	324,032	867	208
Difference	141	20,052	153	65

Summary of New Work

Field—	Rigs	Dry	Total
Eastern	144	560	704
Central Ohio	24	97	121
Lima	3	55	58
Indiana	7	48	55
Michigan	12	26	38
Illinois	7	57	64
Kentucky	8	179	187
Tennessee	0	15	15
Mississippi	5	10	15
Alabama	0	4	4
Florida	6	7	13
Kansas	76	338	414
Oklahoma	231	1,135	1,366
North Central Texas	82	658	740
West Central Texas	53	211	264
East Central Texas	15	54	69
Panhandle, Texas	122	454	576
Gulf Coast	73	199	272
Southwest Texas	41	104	145
Arkansas	31	93	124
North Louisiana	36	126	162
Wyoming	34	328	362
Montana	15	143	158
Colorado	19	100	119
Utah	3	31	34
New Mexico	8	146	154
Total, August	1,055	5,178	6,233
Total, July	1,068	5,114	6,182
Difference	13	64	51

OKLAHOMA FIELDS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Osage	67	12,571	15	1
Tulsa	42	501	18	5
Washington	18	146		2
Nowata	17	229	2	
Rogers	20	189	7	1
Okmulgee	53	2,071	26	8
Seminole	30	21,373	6	
Okfuskee	15	1,195	7	2
Hughes	11	3,297	4	1
Muskogee & Wagoner	20	471	9	2
Creek	68	5,123	19	4
Pawnee	15	541	3	2
Kay	28	12,970	5	3
Payne	13	1,689	4	1
Lincoln	15	2,300	6	..
Garfield	33	7,081	11	..
Grady	7	190		3
Stephens & Cotton	16	164	8	2
Carter	29	3,069	7	2
Miscellaneous	22	478	12	6
Total August	539	75,169	169	45
Total July	598	92,914	207	49
Difference	59	17,465	38	4

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Osage	18	81	99
Tulsa	4	16	20
Okmulgee	21	76	97
Seminole	42	139	181
Okfuskee	13	45	58
Hughes	4	50	54
Muskogee & Wagoner	5	53	58
Creek	41	130	171
Pawnee	14	34	48
Kay	6	89	95
Payne	5	31	36
Lincoln	2	39	41
Grant	1	11	12
Noble	1	18	19
Garfield	6	81	87
Grady	8	28	36
Comanche	3	19	22
Pontotoc & Garvin	5	16	21
Stephens & Cotton	6	37	43
Jefferson	1	12	13
Carter	10	70	80
Miscellaneous	15	90	105
Total August	231	1,135	1,366
Total July	235	1,207	1,442
Difference	4	72	76

KANSAS FIELDS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Allen	39	1,295	3	2
Butler	21	1,270	10	..
Chautauqua & Elk	8	29	5	1
Cowley	9	135	5	..
Greenwood	66	5,330	19	1
Lyon	18	575	9	..
Montgomery	14	108	3	3
Miscellaneous	56	2,414	23	2
Total, August	222	11,057	77	9
Total, July	303	18,892	109	10
Difference	81	7,835	32	1

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Total
Butler	8	39	47
Chautauqua & Elk	2	20	22
Chase	1	7	8
Cowley	11	31	42
Greenwood	28	76	104
Kingman	0	12	12
Lyon	7	9	16
Marion	2	6	8
Montgomery	0	12	12
Rice	3	10	13
Sumner	5	21	26
Miscellaneous	9	95	104
Total, August	76	338	414
Total, July	91	347	438
Difference	15	9	24

ARKANSAS
Summary of Completions and Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union County	77	3,661	12	6	25	58	83
Ouachita	17	1,080	4	1	2	18	20
Columbia	2	12	1	0	0	1	1
Nevada	1	50	0	0	3	6	9
Lafayette	3	40	2	0	0	0	0
Miscellaneous	4	0	4	0	1	10	11
Total Aug.	104	4,843	23	7	31	93	124
Total July	93	4,017	22	3	39	118	157
Difference	11	826	1	4	8	25	33

LOUISIANA
Summary of Completions and Operations

Parish—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
LaSalle	42	2,690	9	0	9	28	37
Caddo	25	1,814	3	3	11	38	49
Bossier	4	110	1	1	1	3	4
Caldwell	3	0	3	0	1	1	2
Claiborne	1	0	1	0	0	4	4
DeSoto	1	0	1	0	0	4	4
Grant	8	35	7	0	2	3	5
Jackson	0	0	0	0	1	4	5
Monroe Dist.	9	0	0	9	2	15	17
Natchitoches	1	0	1	0	2	4	6
Webster	4	29	2	2	1	8	9
Winn	8	1,100	6	0	2	3	5
Misc.	4	0	4	0	4	11	15
Total Aug.	110	5,778	38	15	36	126	162
Total July	105	5,602	31	13	51	120	171
Difference	5	176	7	2	15	6	9

GULF COAST
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boling	5	600	3	0	2	3	5
Batson	3	85	1	0	2	6	8
Blue Ridge	1	0	0	2	2	2	4
Barber Hill	2	400	0	0	2	2	4
Big Creek	1	1,200	0	0	0	2	2
Edgerly	2	200	0	0	0	2	2
Goose Creek	7	1,840	2	0	2	10	12
Humble	2	240	0	0	0	6	6
Hull	12	5,450	1	0	6	15	21
High Island	1	500	0	0	0	4	4
Jennings (La.)	1	575	0	0	0	3	3
Lockp't (La.)	2	500	0	0	1	6	7
Markham	2	150	1	0	0	0	0
Nash Dome	1	1,000	0	0	4	2	6
Orange	13	8,355	3	0	1	7	8
Orchard	0	0	0	0	0	1	1
Pierce Junct.	2	2,550	0	0	8	5	13
Piedras Pintas	4	250	3	0	0	2	2
Spindletop	16	59,800	1	0	21	40	61
Saratoga	1	25	0	0	1	2	3
Sour Lake	7	9,125	0	0	4	9	13
South Liberty	0	0	0	0	1	6	7
Vinton (La.)	7	630	3	0	2	9	11
W. Columbia	0	0	0	0	0	1	1
Misc.	11	0	9	2	14	54	68
Total Aug.	105	93,475	28	2	73	199	272
Total July	114	77,125	41	0	55	189	244
Difference	9	16,350	13	2	18	10	28
Decrease completions							9
Increase new production							16,350
Decrease dry holes							13
Increase rigs							18
Increase drilling wells							10
Net increase							28

SOUTHWEST FIELDS
Summary of Operations

Field—	Com.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Luling	1	0	1	0	1	3	4
Mirando	*70	12,505	6	5	21	54	75
Somerset	1	12	0	0	0	2	2
Callihan	1	0	1	0	0	1	1
Rockdale-							
Minerva	5	60	0	0	1	8	9
Misc.	3	0	3	0	18	36	54
Total Aug.	81	12,577	11	5	41	104	145
Total, July	77	11,110	21	3	40	119	159
Difference	4	1,467	10	2	1	15	14

*Webb, Jim Hogg, Zapata and parts of Duval County.

TEXAS PANHANDLE
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	7	5,630	2	0
Hutchinson	98	62,285	0	0
Wheeler	2	0	0	2
Total August	107	67,915	2	2
Total July	61	35,695	1	4
Difference	46	32,220	1	2

Summary of Rigs and Wells Drilling

County—	Rigs	Dlg.	S.D.	Ttl
Carson	7	24	7	38
Gray	21	59	6	86
Hutchinson	75	279	30	384
Wheeler	5	6	6	20
Miscellaneous	11	24	13	48
Total August	122	392	62	576
Total July	105	407	33	545
Difference	17	15	29	31

NORTH AND WEST TEXAS
Summary of Wells Completed
West Texas

County—	Comp.	Prod.	Dry	Gas
Crane	2	35	1	0
Crockett	1	0	1	0
Culberson	1	0	1	0
Howard	6	238	2	0
Mitchell	8	420	2	0
Reagan	9	1,988	3	0
Reeves	1	0	1	0
Runnels	1	0	1	0
Sterling	1	0	1	0
Taylor	1	0	1	0
Upton	12	2,253	0	0
Total August	43	4,937	14	0

North Texas

Archer	89	3,558	35	0
Baylor	3	0	3	0
Brown	82	6,036	31	0
Callahan	17	1,030	4	1
Clay	9	45	8	0
Coleman	13	60	9	1
Comanche	1	0	1	0
Cooke	5	530	1	0
Eastland	21	492	12	2
Erath	1	0	1	0
Glasscock	1	0	1	0
Hardeman	1	0	1	0
Jack	11	30	9	0
Montague	34	2,482	2	1
Palo Pinto	2	0	2	0
Shackelford	24	2,130	11	0
Stephens	11	233	4	1
Throckmorton	3	2,366	2	0
Wichita	52	1,234	23	0
Wilbarger	61	4,583	10	0
Young	49	1,760	17	0
Total North Texas	490	26,509	187	6
Grand Total North and West Texas	533	31,446	201	6
Grand Total July	651	45,957	276	7
Difference	118	14,511	75	1

Summary of Wells Drilling for August, 1926
North Texas

County—	Rigs	Dlg.	S.D.	Ttl
Archer	6	51	10	67
Brown	9	79	20	108
Callahan	7	23	4	34
Coleman	3	21	11	35
Eastland	6	29	11	46
Jack	0	11	4	15
Montague	7	38	4	49
Shackelford	7	61	10	78
Stephens	4	20	13	37
Throckmorton	2	18	3	23
Wichita	1	38	6	45
Wilbarger	14	59	21	94
Young	5	19	7	31
Miscellaneous	11	34	33	78
Total	82	501	157	740

West Texas

Crane	4	11	4	19
Crockett	4	12	3	19
Mitchell	2	13	1	16
Reagan	8	36	3	47
Upton	15	55	1	71
Miscellaneous	20	38	34	92
Total	53	165	46	264
Grand Total August	135	666	203	1,004
Grand Total July	122	588	177	887
Difference	13	78	26	117

EAST CENTRAL TEXAS
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl
Limestone	16	22,028	3	0	15	31	46
Anderson	2	0	2	0	0	0	0
Navarro	1	65	0	0	0	8	8
Kaufman	1	0	1	0	0	0	0
Falls	1	0	1	0	0	1	1
Grimes	1	0	1	0	0	0	0
Milam	1	0	1	0	0	1	1
Cherokee	2	0	2	0	0	4	4
Miscel.	0	0	0	0	0	9	9
Total Aug.	25	22,093	11	0	15	54	69
Total July	6	6,850	3	0	18	60	78
Difference	19	15,243	8	0	3	6	9

WYOMING
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	0	0	0	0	0	4	4
Salt Creek	41	5,273	0	0	18	127	145
Lance Creek	0	0	0	0	0	3	3
Big Horn Basin	1	0	1	0	2	56	58
Lost Soldier & Carbon Co.	2	0	1	1	3	27	30
Rock Riv. Dist.	0	0	0	0	0	13	13
Fremont Co.	1	0	1	0	1	30	31
Osage	0	0	0	0	3	4	7
Natrona Co.	1	0	1	0	1	10	11
Lincoln & Uinta Counties	1	15	0	0	4	30	34
Baxter Basin	0	0	0	0	0	8	8
Misc.	0	0	0	0	2	16	18
Total Aug.	47	5,288	4	1	34	328	362
Total July	56	4,063	8	3	41	358	399
Difference	9	1,225	4	2	7	30	37

MONTANA
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Sunburst	46	5,779	11	2	9	65	74
Cut Creek and Misc.	2	0	1	1	6	78	84
Total Aug.	48	5,779	12	3	15	143	158
Total July	54	9,507	19	6	12	128	140
Difference	6	3,728	7	3	3	15	18

COLORADO
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Aug.	7	320	2	1	19	100	119
Total July	12	3,749	4	1	16	97	113
Difference	5	3,429	2	0	3	3	6

UTAH
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Aug.	0	0	0	0	3	31	34
Total July	0	0	0	0	2	31	32
Difference	0	0	0	0	1	0	1

NEW MEXICO
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total August	15	900	4	0	8	146	154
Total July	13	1,390	5	0	8	151	159
Difference	2	490	1	0	0	5	5

CENTRAL OHIO
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	2	0	2	0	2	6	8
Ashland	5	0	3	2	8	17	25
Medina	5	3	1	3	0	12	12
Lorain	3	0	1	2	0	2	2
Wayne	7	8	2	6	3	13	16
Holmes	10	277	2	4	7	16	23
Athens	8	0	4	4	1	11	12
Coshocton	3	0	1	2	1	5	6
Guernsey	1	0	0	1	0	0	0
Cuyahoga	5	0	0	5	2	12	14
Vinton	3	12	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Summit	0	0	0	0	0	1	1
Total Aug.	54	300	16	29	24	97	121
Total July	70	556	17	37	47	103	150
Difference	16	256	1	8	23	6	29

LIMA FIELD
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	6	75	0	0	0	7	7
Hancock	4	110	0	0	0	10	10
Allen	3	55	0	0	0	3	3
Auglaize	1	17	0	0	0	3	3
Sandusky	6	39	0	0	4	4	8
Mercer	6	60	1	0	0	7	7
Van Wert	1	20	0	0	0	1	1
Seneca	1	1	0	0	0	0	0
Lucas	0	0	0	0	0	4	4
Ottawa	1	15	0	0	0	6	6
Shelby	2	30	0	0	1	3	4
Hardin	2	95	0	0	0	3	3
Darke	2	36	0	0	0	2	2
Paulding	1	0	1	0	2	0	2
Wyandot	2	0	2	0	0	1	1
Clark	0	0	0	0	0	1	1
Lima Field	38	549	4	0	3	55	58
Michigan	11	157	3	0	12	26	38
Total Aug.	49	706	7	0	15	81	96
Total July	57	956	5	2	9	76	85
Difference	8	250	2	2	6	5	11

INDIANA FIELD
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Blackford	1	1	0	0	0	1	1
Jay	0	0	0	0	0	3	3
Adams	7	215	0	0	4	10	14
Huntington	0	0	0	0	0	2	2
Gibson	1	0	1	0	0	3	3
Pike	7	347	0	1	1	5	6
Sullivan	3	3	0	2	0	2	2
Allen	1	10	0	0	1	2	3
Knox	0	0	0	0	0	3	3
Daviess	4	55	1	0	0	5	5
Vigo	1	0	1	0	0	1	1
Shelby	2	0	0	2	0	2	2
Lagrange	1	0	1	0	0	0	0
Dubois	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Harrison	1	0	1	0	0	0	0
Johnson	1	0	1	0	0	1	1
Madison	1	0	0	1	0	1	1
Martin	1	0	0	1	0	2	2
Monroe	0	0	0	0	0	1	1
Morgan	0	0	0	0	1	0	1
Parke	1	0	1	0	0	0	0
Total Aug.	33	631	6	8	7	48	55
Total July	29	817	3	2	3	45	48
Difference	4	186	3	6	4	3	7

ILLINOIS
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	9	83	2	0	0	9	9
Cumberland	0	0	0	0	0	1	1
Crawford	9	62	2	1	1	5	6
Lawrence	1	0	1	0	1	5	6
Wabash	10	460	3	0	4	18	22
Marion	1	0	1	0	0	4	4
Coles	0	0	0	0	0	2	2
Douglass	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Fayette	0	0	0	0	1	0	1
Edwards	0	0	0	0	0	1	1
McDonough	2	0	2	0	0	3	3
Randolph	1	0	1	0	0	2	2
Madison	0	0	0	0	0	2	2
St Clair	1	0	1	0	0	0	0
Macon	0	0	0	0	0	1	1
Morgan	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Total Aug.	34	695	13	1	7	57	64
Total July	33	1,124	6	2	4	52	56
Difference	1	419	7	1	3	5	8

KENTUCKY-TENNESSEE
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	3	3	1	0	1	12	13
Allen	8	192	1	0	0	15	15
Barren	25	207	2	0	0	33	33
Owensboro	28	365	9	0	0	23	23
Cumberland-Monroe	1	40	0	0	2	14	16
Simpson	1	5	0	0	0	2	2
Casey	0	0	0	0	1	1	2
Clinton	2	648	0	0	0	4	4
Christian	0	0	0	0	0	1	1
Wayne	4	3	3	0	0	3	3
Lee-Owsley	2	10	0	0	0	8	9
Powell	0	0	0	0	0	1	1
Estill	12	94	3	0	0	8	9
Wolfe	1	25	0	0	0	0	0
Lawrence-Johnson	13	128	0	0	0	10	10
Magoffin	8	103	1	0	3	19	22

Floyd-Knott ..	1	0	0	1	0	5	5
Knox	0	0	0	0	0	3	3
Morgan	1	0	1	0	0	3	3
Elliott	1	3	0	0	1	2	3
Menifee	0	0	0	0	0	2	2
Laurel	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Greenup	0	0	0	0	0	1	1
Carter	0	0	0	0	0	3	3
McCreary	0	0	0	0	0	2	2
Pike	1	0	0	1	0	6	6
Kentucky ..	112	1,826	21	2	8	179	187
Tennessee ..	1	500	0	0	6	15	15
Mississippi ..	0	0	0	0	5	10	15
Alabama ...	0	0	0	0	0	4	4
Florida	0	0	0	0	6	7	13
Total Aug. .	113	2,326	21	2	19	215	234
Total July ..	129	904	27	3	17	212	229
Difference ..	16	1,422	6	1	2	3	5

SHREVEPORT MARKET DECIDEDLY STRONGER

SHREVEPORT, La., Aug. 30.—Gasoline emerged from its sluggishness the first of the week in the Shreveport territory, moved fairly steadily and at the end of the week showed a decided strengthening while heavier products maintained their strength. The indications Saturday were, in the opinion of refiners, that U. S. Motor gasoline was on the upward trend and would get a fractional raise the first of the week. Jobbers were buying rather briskly and movements were on the increase.

Grade C natural gasoline went up one-half a cent during the week and was tight. Some refiners are having difficulty in getting their contracts filled because of the scarcity of that product. Others were forced into the north Texas and Oklahoma markets because little was available here.

Kerosene climbed during the week and what little of the burning oil made in this territory was strong. Gas oils and distillate remained unchanged and were strong. Fuel oil, while far from being weak, was a shade stronger.

Gasoline in El Dorado was in a stronger position and kerosene advanced and was strong. All other products were firm.

J. L. DOWLING RESIGNS FROM TEXAS P. L. CO.

HOUSTON, Tex., Aug. 30.—J. L. Dowling, vice president and general manager of the Texas Pipe Line Co., has resigned effective September 1. He will make an overland trip to the Northwest and Pacific Coast, accompanied by Mrs. Dowling, to be gone three months, before making any plans for the future.

Mr. Dowling has been connected with The Texas Company for 20 years as an executive of the pipe line department, coming to the Southwest from Lima, Ohio. He became connected with the pipeline end of the industry after graduating from Cornell University.

Practically all The Texas Company's pipeline extensions have been made under Mr. Dowling's supervision, including the 8-inch trunk line from Bartlesville to Port Arthur, started in 1907. He has witnessed the growth of the company's lines from a few miles in the Coastal area to a total of 4,800 miles connecting the Mid-Continent, Texas, Louisiana and Arkansas fields with the refinery at Port Arthur.

Executives of the company expressed much regret over Mr. Dowling's desire to resign after 20 years of efficient service.

RUSSIAN OUTPUT GAINING

WASHINGTON, D. C., Aug. 28.—Oil production in the Soviet Union has now reached the prewar level and is gaining steadily, according to official reports of the industry received by the Russian Information Bureau. During the current year approximately $40,000,000 is being spent on improvements and extensions, and much oil well machinery is being imported from the United States, Germany and England. The mechanical condition of the large Baku and Grozny fields is now reported as far superior to the prewar condition. Production has tripled in the past four years.

Panama Canal Acts As a Safety Valve For Oil Industry

The tremendous increase in recent years in the shipment of crude petroleum and refined products through the Panama Canal from California to eastern ports in the United States constitues one of the most remarkable developments in the history of American marine transportation, states the Bureau of Mines, Department of Commerce. This traffic has assumed such proportions that in one year the canal tolls on the 56,000,000 bbls. of crude oil and refined products moving eastward amounted to $7,000,000, or almost enough to pay for the upkeep of the great waterway.

The Panama Canal acts as a supply valve for the oil industry, in that it prevents an accumulation of unwieldly stocks on one coast and a shortage on the other, states G. R. Hopkins, petroleum economist, in a report on the subject. If there is an excess of oil on the Pacific Coast as compared to the Atlantic Coast, oil is shipped eastward, and vice versa.

Prior to 1922 the bulk of the movement was westward. During the period 1915-1921, inclusive, 565,000 bbls. of crude oil and 1,288,000 bbls. of refined oils were shipped from Atlantic to Pacific ports in the United States, as compared with 170,000 bbls. of crude and 1,370,000 bbls. of refined oils which moved in the reverse direction.

Now Shipping East

As a direct result of the rapid rise of production in California due to the discovery of the prolific Los Angeles Basin fields, the decline in the Mexican fields and the presence of superflous tonnage, the trend in the movement of tankers was reversed and westward shipments fell off so that at the present time only an occasional cargo of oil breaks the monotony of the procession of tankers in ballast entering San Pedro and San Francisco.

The record year for shipments of crude petroleum from California to eastern ports in the United States was 1923, when 52,350,000 bbls. passed through the canal. This was about 25 times the 1922 figure and, excluding the last three months of 1922, was about 125 times the shipments of all the preceding months back to the opening of the canal. A total of 1,704 tank ships passed through the canal during 1923, having a net tonnage of 10,079,921 long tons, from which $8,967,647.41 in tolls was collected and which carried 9,625,714 long tons of cargo, 95 per cent of which was for United States intercoastal trade. This was 33.8 per cent of the transits, 40.7 per cent of the total net tonnage, 39.1 per cent of the tolls, and 38.3 per cent of the cargo for the year 1923.

Coincident with the production decline in California, shipments fell off so that the total for 1924 of 39,300,000 bbls. of crude petroleum was a decrease from 1923 of 25 per cent. This decline was continued during 1925, when a decrease of 63 per cent was registered. The explanation of this last decrease, without a corresponding decrease in crude production, lies in the growth in number of refined oil shipments, the total cargo of which rose from 5,315,000 bbls. in 1924 to 14,632,000 bbls. in 1925. In other words, California is now refining the bulk of the crude petroleum it formerly shipped, most of it to provide for its increasing Pacific Coast demands.

Larger Tankers Used

The greater part of the cargoes up to the present time have been carried by tankers of about 7,500 tons, carrying about 10,000 tons of cargo. However, the transporting companies soon found that for a long haul a large vessel could operate at a cost but slightly above that for a smaller vessel, which would make the transportation per barrel much cheaper for the larger vessel. The result has been the supplanting of some of the smaller vessels by larger ones of 14,000 tons and capable of carrying nearly 159,000 bbls. of oil.

There is a wide difference between the speed of tankers, but, in general, the round trip from San Pedro to New York, a distance of nearly 10,000 miles, is made in 45 days.

In the main, the production of crude petroleum governs the price, which, in turn, governs shipments through the Panama Canal. In the rise in price of California oil, due to decreased production and increased demand on the Pacific Coast and of freight rate to the Atlantic Coast, lies the explanation of the decrease in California shipments.

Excluding the canal route, the two most important ways by which the Atlantic Seaboard refineries receive their supply of domestic crude are by pipeline from the Mid-Continent Field and by pipeline from these fields to the Gulf Coast and thence by water.

Much of the decline in California shipments has been compensated by increased use of the Gulf route rather than the overland pipeline route in delivering Mid-Continent oil to eastern seaboard refineries. Movement over the latter route, while probably capable of some expansion, has not increased materially in the last few years. This was due in the main to its relative inflexibility as compared to water transportation. On the other hand, the Gulf route, although dependent on pipelines over half the distance, is growing in importance. The discovery of such fields as Powell and Wortham has forced the development of pipelines to the Gulf, which, when supplemented by that part of the tanker fleet made available by the decline in California's fields, has caused a greatly increased use of this route. This statement is substantiated by the rise of 60 per cent in two years of the volume of crude oil transported. This increase was also true of refined oil shipments.

DROP TWO PATENT CLAIMS IN SUIT

(Continued from Page 38)

pass on for further condensation and collection.

Method of Cracking

The steps of the process of the defendant which the plaintiff will rely upon to establish infringement of claims 1, 2 and 3 of Patent 1,484,445, consist in converting heavy into lighter hydrocarbons by subjecting the heavier hydrocarbon oil to a cracking temperature while circulating in a cracking still embodying heating tubes, a horizontal drum, front and rear cross drums connected to the tubes and said horizontal drum, which heating tubes are in a furnace maintained at a temperature sufficient to heat the oil passing therethrough to a cracking heat, in providing a vapor space for the expansion of the generated vapors in the horizontal cracking drum, in passing such vapors through a reflux tower with the still by a vapor line, in providing in this tower a series of baffles to prevent the broadcast passage of the vapors therethrough, and where the insufficiently cracked vapors are separated from the sufficiently cracked vapors by charging oil introduced to the reflux tower. The reflux condensate is returned to the cracking still for retreatment in such still, while the uncondensed vapors from the reflux tower are discharged for further condensation and collection. A superatmospheric pressure of the self-generated vapors is maintained on the still and reflux tower by a controlling valve located at the outlet side of the reflux valve.

Infringement Claimed

As the plaintiff is now advised, the steps of the defendant's process which infringe claims 5, 7, 8 and 11 of Patent 1,534,927, consist essentially of the steps set forth in paragraph 1 of this bill of particulars. These steps, briefly repeated, consist in feeding the charging oil to a reflux tower, passing the preheated charging oil and reflux condensate from the bottom of the tower to a cracking unit consisting of a horizontal drum, front and rear cross drums connected therewith by vertical lines, with heating tubes in a furnace disposed between said drums. The oil in the still with the charging stock is circulated by a propeller entering the rear passageway. From the front drum carbon containing residual oil is withdrawn from the ring while charging stock is fed to the system in a quantity to maintain the oil volume in the still substantially constant. A superatmospheric pressure is maintained on the oil in the heating tubes and on the oil in both of the cross drums and the communicating horizontal drum as well as on the vapors undergoing reflux condensation through the reflux tower.

Type of Still

As the plaintiff is now advised, the parts or elements of defendant's apparatus which the plaintiff will rely on to establish infringement of apparatus claim 4 of Patent 1,281,884, comprises an oil converting apparatus embodying inclined heating tubes disposed within a furnace, a horizontal drum in which vaporization of the oil occurs, vertical passageways leading from each end of the drum and communicating with cross drums between which the heating tubes are interposed to permit the oil to circulate through such drums and the heating tubes in a ring, a vapor discharge line leading from the horizontal drum, a liquid drainoff line entering the bottom of the front cross drum through which the unvaporized carbon containing oil is continuously withdrawn from the mixture of oil circulating in the system, a propeller driven by a motor and entering the passageway establishing communication between the rear cross drum and the horizontal drum for forcing the unvaporized and previously treated oil in the horizontal drum through the heating tubes, with a pump for feeding charging oil to the top of a reflux tower, which charging oil passes from said tower into the cracking still in a quantity substantially equal to the quantity of unvaporized carbon containing oil drawn from the front cross drum of the apparatus.

PENNSYLVANIA MARKET BUT LITTLE CHANGED

OIL CITY, Pa., Aug. 30.—There was not much change in the gasoline market at Pennsylvania refineries during the past week and the demand continues to be good. Kerosene has been very strong and is commanding better prices. It looks as though this product would continue to improve. Neutrals are strengthening and seem to be scarce in the Pennsylvania district. Cylinder stocks are unchanged with very little demand but bright stock has been very scarce and is almost impossible to obtain. Fuel oil was not changed but the demand continued good. Wax also was unchanged.

TO LATE TO CLASSIFY

AUCTION

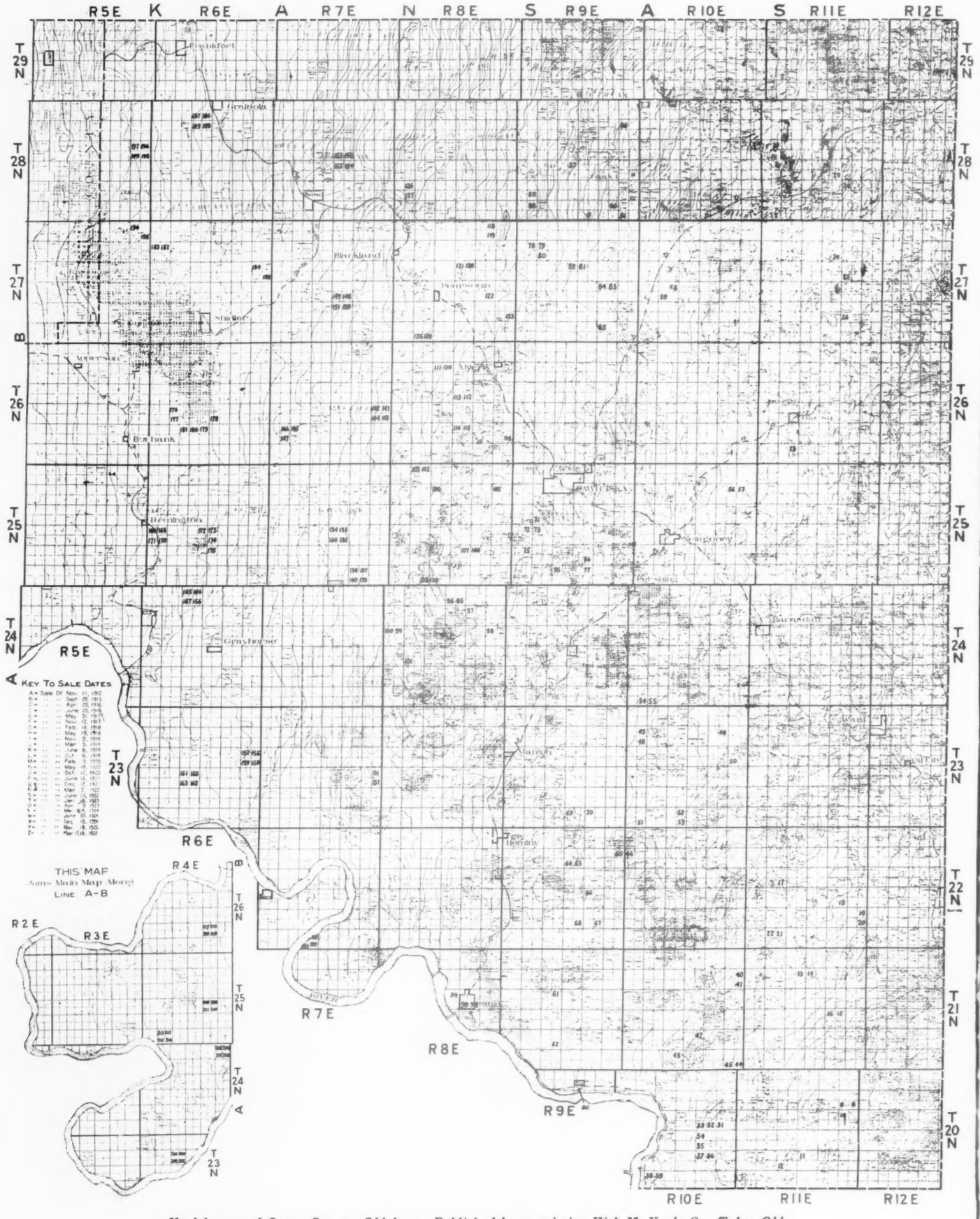
Wednesday, September 15, 1926, 3½ miles northeast of Centerville, Kans., 840 acres with oil production, 200 head of livestock, grain, implements and household goods; $200 monthly income on royalties, extra good farming land with two sets of improvements, land and royalties sell separately on easy terms. Sale starts at 9:30 a. m. For particulars, write A. N. Smith, Centerville, Kans., or Gross-Johnston Auction Co., 404 Victor Bldg., Kansas City, Mo. H. M. Justice, Paola, Kans.

OIL LEASES in San Juan Field. A few tracts ranging from 80 to 640 acres each at $1 per acre. First come, first served. Frank Staplin, Santa Fe, N. Mex.

EXECUTIVE, ACCOUNTANT and practical oil man, thoroughly competent to handle all accounting and income tax matters and having practical field experience in all branches of the business such as drilling, producing, leasing, pipeline, wholesale oil, etc. Age 40, now employed but seeking connection after September 1, due to sale of present company. Best of references. Prefer small company or independent operator where duties can be combined. Several years public accountant, appraisals, depletion, etc. Box B-475, The Oil and Gas Journal, Tulsa, Okla.

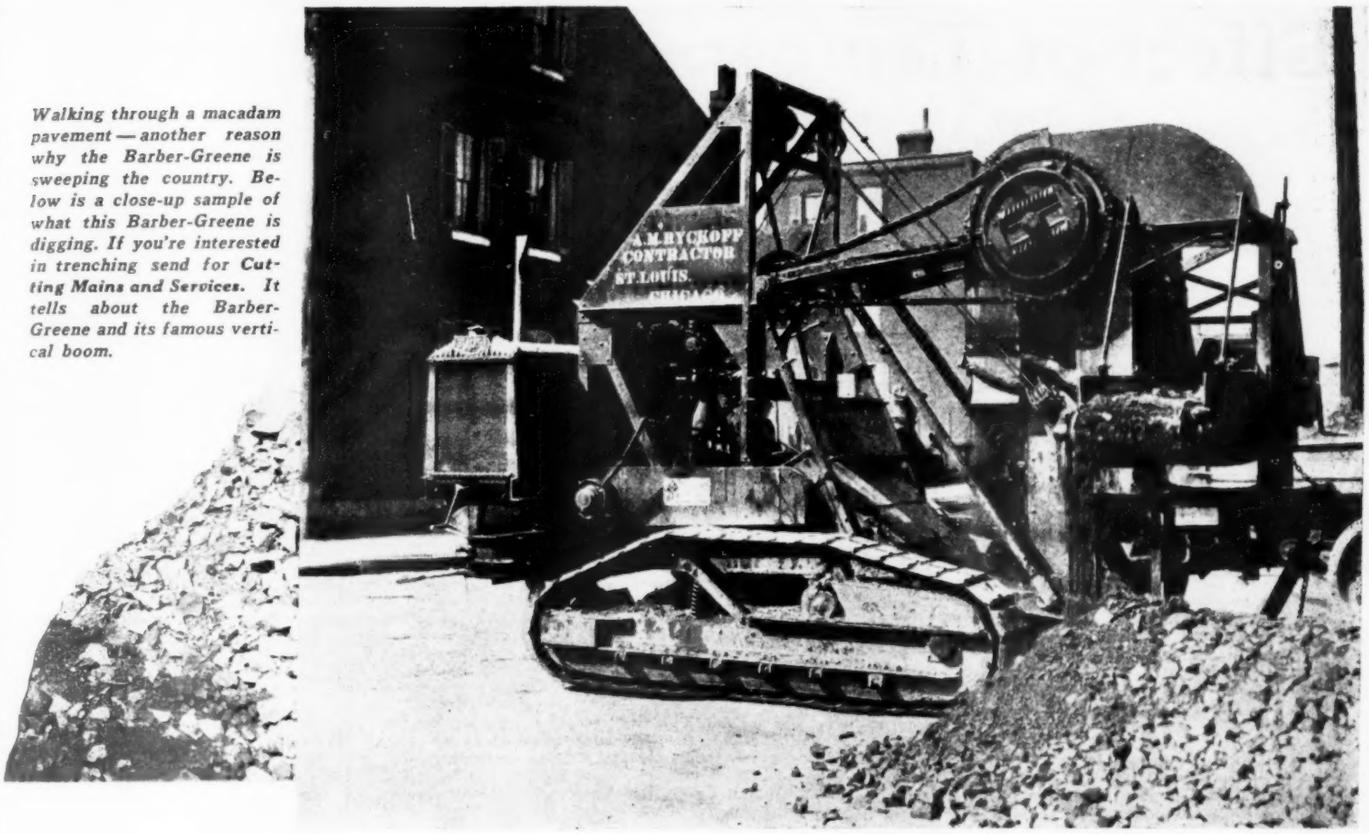
BOOKKEEPER-Accountant, thoroughly experienced, good references, go anywhere, can report at once. E. M. Huffman, P. O. Box 563, Huntington, W. Va.

Tracts to Be Offered at Osage Auction September 30



Nagle's map of Osage County, Oklahoma. Published by permission Kirk M. Nagle Co., Tulsa, Okla.

Walking through a macadam pavement — another reason why the Barber-Greene is sweeping the country. Below is a close-up sample of what this Barber-Greene is digging. If you're interested in trenching send for ***Cutting Mains and Services.*** *It tells about the Barber-Greene and its famous vertical boom.*



Sweeping Into Its 4th Highly Successful Season, *Because*—

Four years ago, the Barber-Greene Ditcher was welcomed by those who were forced to dig ditches with pick and shovel labor because of the cumbersomeness of the ditchers of that time.

The Barber-Greene's vertical boom—its automatic, spring overload release—its close-coupled, full-length crawler chassis—represented the first radical advancements of ditcher design in twenty years.

They permitted the Barber-Greene to be swung into cutting service laterals—short run work—tight corner digging—and similar jobs, where only hand labor had ever been used before.

But ditcher users soon found out that the Barber-Greene shows equally surprising results on what is considered straight machine digging.

The same radical advancements in design, that help the Barber-Greene to replace hand labor at a profit, help it to show lower costs per "faster-foot" on straight-away work.

As a result, the Barber-Greene is sweeping the country, in every class of digging, to which its seven-foot boom can be applied.

That explains why to the best of our knowledge, more Barber-Greenes were sold last year than any other one make of machine.

Today, you'll find Barber-Greenes hitting a mile a day on southwestern pipe lines. You'll find them "milling" through one and two feet of Canadian frost.

You'll find them picking their way, safely, through the maze of mains and conduits that lie beneath city streets. You'll find them trenching through Kentucky's rough and rocky hills.

And wherever you go—from Los Angeles to Montreal—you'll hear the same story. It's briefly summed up in this statement by a hard-boiled Florida trenching foreman: "It's the diggenest——thing I ever saw."

Take a free inspection tour of the entire country, and find out what Barber-Greenes are doing, by sending for ***Cutting Mains and Services.*** It will show you why the Barber-Greene is sweeping the country. The Barber-Greene Company, 600 W. Park Ave., Aurora, Ill.

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Only the Barber-Greene has the vertical boom that provides the machine tool "milling" action digging.

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Effect of Temperature on Cracking

Tests Conducted to Show Reaction of Fundamental Variables and Determine Yields Under All Conditions

By E. H. Leslie and E. H. Potthoff*
University of Michigan, Ann Arbor, Mich.

The cracking of petroleum oils for the production of gasoline is the outstanding development of the last decade in petroleum technology, and is, furthermore, an achievement of such social and economic importance as to rank with the really great industrial advances of all time. Gasoline of superior quality has been made available at prices well within the reach of all. To this end manufacturers have invested hundreds of millions of dollars in cracking equipment, thereby permitting operations that have exerted a profound stabilizing influence on the entire petroleum industry.

In view of the magnitude of the expenditure involved and the scale on which operations have been conducted, it is odd, indeed, that so little scientific work has been done to establish a foundation of fact on which the engineering superstructure might securely rest. Yet careful review of the existent technical literature discloses little dependable definite information. Much that has been done and described is unreliable because of failure to control the individual variable factors.

The purpose of the investigation the results of which are here reported was, in part, to determine quantitatively, or as nearly quantitatively as possible, the effect of the fundamental variables in cracking—namely, temperature, pressure, time, and composition or pressure of the oil cracked—and further to ascertain the effects of removal or nonremoval of the gasoline as formed, to determine the quality of the gasoline produced under various conditions, and to measure the heat absorbed or evolved in the over-all process of cracking. These are the most important and fundamental points on which information is necessary for the intelligent layout of a cracking procedure and the design of the equipment for its accomplishment.

As is almost invariably true, the more important processes used industrially have been in the main correct in principle. Day-to-day operation is an accurate, if slow, guide to the truth. Yet misconceptions exist and much money has been spent in the construction of ill-designed equipment. Also, the basic ideas of processes in current use are sufficiently different to make an analytical study of commercial processes, in the light of quantitative data on the effect of the several variables, most interesting. Data of value in this connection are here presented. The analytical application is left to those concerned.

*Part of paper presented at meeting of American Chemical Society meeting and reprinted from Society's publication, "Industrial of Engineering Chemistry."

NEW CRACKING APPARATUS

A cracking apparatus has been developed permitting study of the individual variables, temperature, pressure, time, effect of nature of oil cracked, and effect of removal or nonremoval of gasoline as formed.

Gasoline formation is a straightline function of time, with two exceptions that are discussed in detail. With these same two exceptions the formation of gasoline can be regarded and formulated as a reaction of the first order.

The over-all process of cracking is extremely complicated and involves reactions both of decomposition and synthesis. Within the limits of error of these experiments, pressure, as such, has been shown to have no effect on the yield of gasoline. Several indirect effects of pressure are discussed. The unsaturation of gasoline is affected by pressure only when pressure indirectly affects the time that the gasoline stays in the reaction vessel. Unsaturation decreases with time of heating. Pressure, as such, has no effect on the boiling range of the gasoline produced in cracking.

Excluding experiments involving limited cracking only, heavy fuel oil cracks most easily, gas oil nearly as readily, but thermolized gas oil or "cyclestock" only 0.40 to 0.47 as rapidly. Removal of gasoline as formed has no effect either on the yield or boiling range of the gasoline produced. It does affect the unsaturation of the gasoline somewhat. Rates of pressure rise during cracking of three oils in a bomb, the relationship between specific gravity and extent of cracking, and the boiling ranges of gasolines produced by cracking under various conditions are given.

An apparatus for studying the thermal relations in cracking was developed and cracking has been shown to be endothermic to the extent of not over 500 calories per gram of gasoline produced.

Cracking is not a process in which an equilibrium state is reached as is somewhat commonly believed. The apparent state of equilibrium reached in cracking systems using lagged reaction chambers is the result of decreased reaction rate caused by the lowered temperature resulting from heat loss and endothermic cracking reactions.

To permit study of the effect of individual variable factors an apparatus of special construction was evolved (Figure 1). The more important requirements were quick heating of the oil to prevent extensive cracking while reaching the operating temperature, balancing of heat loss and gain from the cracking vessel to eliminate the film or layer of superheated oil always present next a vessel wall through which heat is flowing, ability to withstand a working pressure of at least 2,000 pounds per square inch, and convenient arrangements permitting withdrawal of liquid or vapor, admission of inert atmospheres, and measurement of temperature and pressure.

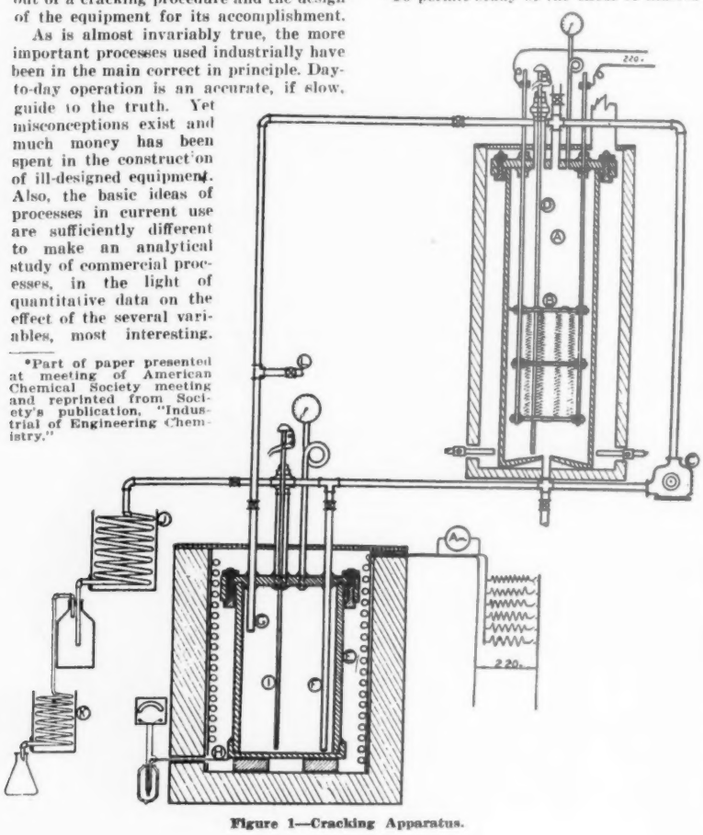

Figure 1—Cracking Apparatus.

In making an experiment, a charge of oil of approximately 2 gallons was placed in the chamber A, heated internally by an immersed resistance coil, B, and externally by two gas burners. A special hot oil pump, C, circulated the oil rapidly over the heating surfaces in and of chamber A, thus bettering the heat transfer and decreasing the temperature and thickness of the superheated oil films. When the oil reached a temperature, read by thermocouple D, 50 degrees Fahrenheit above that desired during the experiment, it was rapidly transferred to a strongly built bomb, E, already heated to 50 degrees Fahrenheit above the desired running temperature. In passing from A to E the oil was cooled by the piping and heavy hydraulic valves through which it flowed. However, by proceeding in the manner described the final result was that bomb E was filled to the level of pipe G with oil at the proper temperature. The total volume of oil so taken was approximately 3,000 c.c.

The bomb E was housed in an insulating vessel provided with a layer of resistance coils on its inside surface, from which energy was radiated and conducted at a rate just sufficient to balance the heat loss from the bomb and to maintain the oil in the bomb at the desired temperature for the required time. Provision was made to read the pressure and temperature of the oil within the bomb.

A thermocouple, H, of No. 30 chromel-alumel, was carefully peened into the wall of the bomb in order to be able to determine the temperature difference between the metal of the bomb and the bulk of the oil. This is a direct measurement of any possible film superheat. Although the task of arranging a thermocouple to give the true temperature of a metal wall is difficult, this particular manipulation had been the matter of detailed study in connection with other apparatus and it is believed that the couple used here gave actual temperatures. In any event, the true temperature would be below that read from the couple, and since the temperature of the oil in the bomb and the steel wall of the bomb never differed by more than 10 degrees Fahrenheit, except in occasional instances when coke formed and the difference rose to 15 degrees Fahrenheit, the effect of oil film superheat can be entirely disregarded. The cracking reactions are effected isothermally throughout a homogeneous body of oil. This is extremely important.

After filling bomb E, the remainder of the oil in vessel A, was drawn through cooler J, and the starting time of the run noted. Draining this residual oil, which constituted the blank sample of the run, required about 2 minutes.

The oil in bomb E, was held at constant temperature for the required time, and a log of oil temperature, wall temperature, and pressure taken. At the conclusion of the cracking period the oil was discharged from the bomb through pipe F, by autogenous pressure, and passed through ice cooler J, which cooled it to 120 degrees Fahrenheit or less. Auxiliary iced cooler, K, was used further to cool gas and vapor passing cooler, J. The draining of bomb, E, required about 2 minutes. The bomb was finally flushed with nitrogen introduced at L, to remove residual gasoline vapor.

When vapor was to be removed during the run the thermocouple. I, was raised and a tee inserted. A valve between this tee and cooler, J, permitted accurate control of the pressure.

Analytical Distillations

The analytical distillations of blank and run samples were all made by use of an apparatus fractionating so closely as to give the true boiling point curve. The laboratory column used has been described by Peters and Baker.[3] These analyses are designated in the tables as Standard Column analyses. Other analyses, marked A. S. T. M., are made by the use of the A. S. T. M. standard apparatus for gasoline distillation.

Standard column analyses check with ±0.5 per cent. Cutting at 450 degrees Fahrenheit temperature in the standard column apparatus results in a gasoline product of approximately Federal specification endpoint—that is, 437 degrees Fahrenheit apparent temperature or 444 degrees Fahrenheit true temperature.

Selection of Oils

Three main classes of oils are cracked industrially—namely, gas oils or distillate oils, residuums or residual oils, and "cycle" stocks, or once-cracked oils. Guided by this, three oils were used in this work—a residuum comprising the heavier 50 per cent of a 37 degree A. P. I. Mid-Continent crude petroleum; a gas oil from this same crude, but which was fractionated to remove part of the material boiling below 444 degrees Fahrenheit, and also the highest boiling part of the gas oil as purchased; and a gas oil made

[3]This Journal, 18, 69 (1926.)

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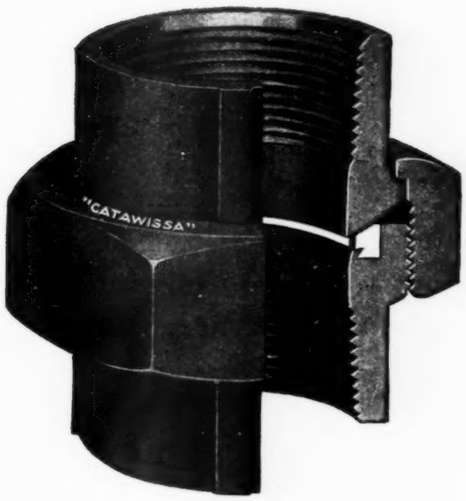

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The Damascus blades were the most coveted weapons of the famous swordsmen of old. The warriors could place their trust in these wonderful swords without fear of their failing in the clash of battle. For they were not made of cast iron or brass, but were forged from steel by the master workmen of their day.

In the battle which the business world is waging against waste and inefficiency, one of the great problems is to locate sources of supply for dependable materials which will give the required service and not fail in the hour of test.

The experience of the centuries is that where good service is required, no material has made a better record than forged steel.

Catawissa Unions are hot forged from bars of high grade steel. They are finished by expert workmen and, as to quality, are in a class by themselves. The best part of this tale is that although they are unbreakable and will withstand higher pressures and more abuse, they cost no more than the better grade malleable iron unions.

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by distilling a Dubbs process coke carrying residual oil. The properties of these three oils are given in Table I.

Careful consideration was given to the use of single pure hydrocarbons, or closely fractionated selected cuts, but it was decided that the information to be secured would be of greater value if typical commercial oils were used. Furthermore, the fact that several hundred gallons of each oil were required practically precluded the use of individual hydrocarbons.

Table 1—Properties of Oils Cracked

	Fractionated gas oil	Heavy fuel oil	Thermolized gas oil
Spec. grav., 60°/60° F.	0.8500	0.9070	0.9311
Sulfuric acid absorp.,%	7.0	....	22.0
Pct. gaso. (material below 450°F. vapor temp. on standard column)..	9.3	6.3	10.5
A. S. T. M. Distillation	°F.	°F.	°F.
F. D.	415	410	270
10	500	515	499
20	527	581	569
30	553	650	616
40	574	696	640
50	593	720	669
60	616	Cracking	698
70	638	....	728
80	663	....	765
90	703	....	....
95	737	....	....

Extent of Cracking

As a criterion of the extent of the reactions which over all are called "cracking," the volumetric percentage of distillate below 450 degrees Fahrenheit vapor temperature in the standard column apparatus was used. This is really the volumetric percentage of Federal Specication 437 degrees Fahrenheit endpoint distillate.

Cracking involves the formation of high-boiling substances as well as those of low boiling point. It must always be regarded in this dual sense. However, there is no organic analytical procedure that permits exact or even approximate estimation of all the products of the cracking reactions. Hence, the yield of 437 degrees Fahrenheit endpoint distillate was used, inasmuch as this was a measure of the yield of the product commercially desired.

Little "coke" was formed in any run, although more was deposited when cracking the heavy fuel oil than when handling the other two oils.

Effect of Temperature

As already indicated, the apparatus used in these experiments is so designed as to eliminate superheated oil films and to cause cracking to proceed throughout a uniformly heated homogeneous body of oil. Failure to recognize the fundamental importance of working in this manner is responsible for most of the irreconcilable results reported in the literature of cracking. If heat is flowing through the walls of a vessel in which cracking is proceeding, it is not sufficient to characterize the results of stating the temperature of the bulk of the oil. The rate of heat flow, which determines the temperature gradient in the film of superheated oil next the wall of the cracking vessel is of equal importance. However, evaluation of the heat flow rate is difficult. The necessity for its measurement can be avoided by use of an essentially adiabatic or balanced heat-flow bomb.

It may be noted that in oil cracking most of the so-called catalytic effects of one surface or another are nothing but the superheated film at work. The surface of any cracking vessel soon becomes coated with a layer of "coke," or material rich in carbon and poor in hydrogen, thus losing any possible initial catalytic activity. That coke itself is without positive catalytic effect is apparent when it is considered that the presence of even an extremely thin layer is sufficient materially to reduce the rate of cracking in an externally heated vessel. The presence of the carbonaceous layer reduces the rate of heat transfer and thus decreases the temperature of the superheated oil film. Slower cracking is the result.

The results of a series of experiments in which the gas oil, heavy fuel oil, and thermolized gas oil were heated for different lengths of time at 700 degrees and 800 degrees Fahrenheit are summarized in Table 2. The percentages given are all volumetric. "Gasoline in blank" refers to the gasoline contained in the sample taken at the start of each run. The "volume factor" is the ratio of the specific gravity of the oil charged to the bomb to the specific gravity of the cracked oil drawn from the bomb at the conclusion of the run. Use of this factor in the calculation results in basing all gasoline percentages on the oil charged to the bomb. When little cracking occurred the volume factor was 1.0, in which event the volume factor column is omitted from the table.

Table 2—Rate of Gasoline Formation

Run	Time of Run Minutes	Average Temp. F.	Gasoline in Blank Per Cent	Gasoline in Cracked Oil Per Cent	Volume Factor	Gasoline Made Per Cent	Gasoline Corrected Per Cent	Unsaturated Per Cent
			FRACTIONATED GAS OIL.					
			Temperature, 700 degrees Fahrenheit					
88	30	690	9.6	10.0	.....	0.4	0.5	.....
87	60	698	9.4	10.3	.....	0.4	1.0	.....
91	90	697	9.6	10.6	.....	1.0	1.2	.....
89	150	695	10.4	12.8	.....	2.4	2.6	.....
81	212	700	9.0	12.7	.....	3.7	4.7	.....
90	300	698	9.5	15.2	.....	5.7	5.8	.....
82	302	700	9.3	16.4	.....	7.1	7.1	.....
85	161	700	9.1	19.4	.....	10.3	10.3	.....
			Temperature, 800 degrees Fahrenheit					
96	30	795	15.2	25.5	1.00	10.3	10.9	15.4
94	43	797	14.0	27.2	1.01	13.5	14.0	14.4
120	59	805	10.7	28.4	1.01	18.0	16.5	13.2
147	60	796	10.2	25.2	1.01	15.3	16.3	13.4
95	73	792	13.2	27.6	1.01	14.7	18.5	13.9
121	91	800	10.5	31.8	1.01	21.7	21.7	14.0
97	134	800	11.0	38.3	1.02	28.1	28.1	12.8
			HEAVY FUEL OIL.					
			Temperature, 700 degrees Fahrenheit					
104	30	698	10.5	11.2	1.00	0.7	0.8	.....
105	60	699	10.4	11.7	1.00	0.9	1.0	.....
102	90	698	6.7	8.0	1.00	1.3	1.5	.....
103	150	699	7.0	8.7	1.00	1.7	2.0	.....
101	210	699	7.0	9.1	1.01	2.1	2.5	.....
100	300	700	6.3	10.7	1.01	4.4	4.4	.....
			Temperature, 800 degrees Fahrenheit					
106	20	784	13.4	16.8	1.02	3.5	6.9	15.4
124	30	792	12.8	17.8	1.02	4.1	6.7	14.1
123	51	798	11.0	20.2	1.03	9.5	9.7	12.8
122	50	797	12.0	27.1	1.04	15.7	16.2	11.0
108	63	797	10.3	28.8	1.05	18.8	19.5	10.2
			THERMOLIZED GAS OIL.					
			Temperature, 700 degrees Fahrenheit					
135	60	705	7.2	6.8	1.00	—0.4	1.0	14.9
134	120	699	7.0	4.8	1.00	—2.2	—2.2	13.9
133	180	698	8.3	6.8	1.00	—1.5	—1.4	10.6
132	300	700	9.2	8.0	1.00	—1.2	—1.2	10.4
			Temperature, 800 degrees Fahrenheit					
130	30	795	11.0	14.5	1.00	3.5	3.8	13.2
126	60	800	9.7	18.2	0.99	8.4	8.4	10.4
129	63	797	12.0	18.6	0.99	6.5	6.9	10.4
128	78	807	10.5	24.2	0.99	13.6	12.1	9.2
127	120	802	10.0	27.2	0.98	16.9	16.4	8.2

"Per cent of gasoline made" refers to the percentage actually made under the conditions of the run. The "per cent gasoline corrected" is the per cent of gasoline that would have been made had the average temperature during the run been 800 degrees Fahrenheit. The temperature corrections of gasoline percentages were made by use of the curves of Figure 2. These curves were constructed by using data covering runs at 800 degrees Fahrenheit and at temperatures varying slightly from 800 degrees Fahrenheit, the runs being of equal length. No temperature corrections, or only small corrections, were necessary when the cracking temperature was 700 degrees Fahrenheit, because the rate of cracking was so slow.

The rate of cracking thermolized gas oil was only half that of the uncracked oils; hence the temperature corrections

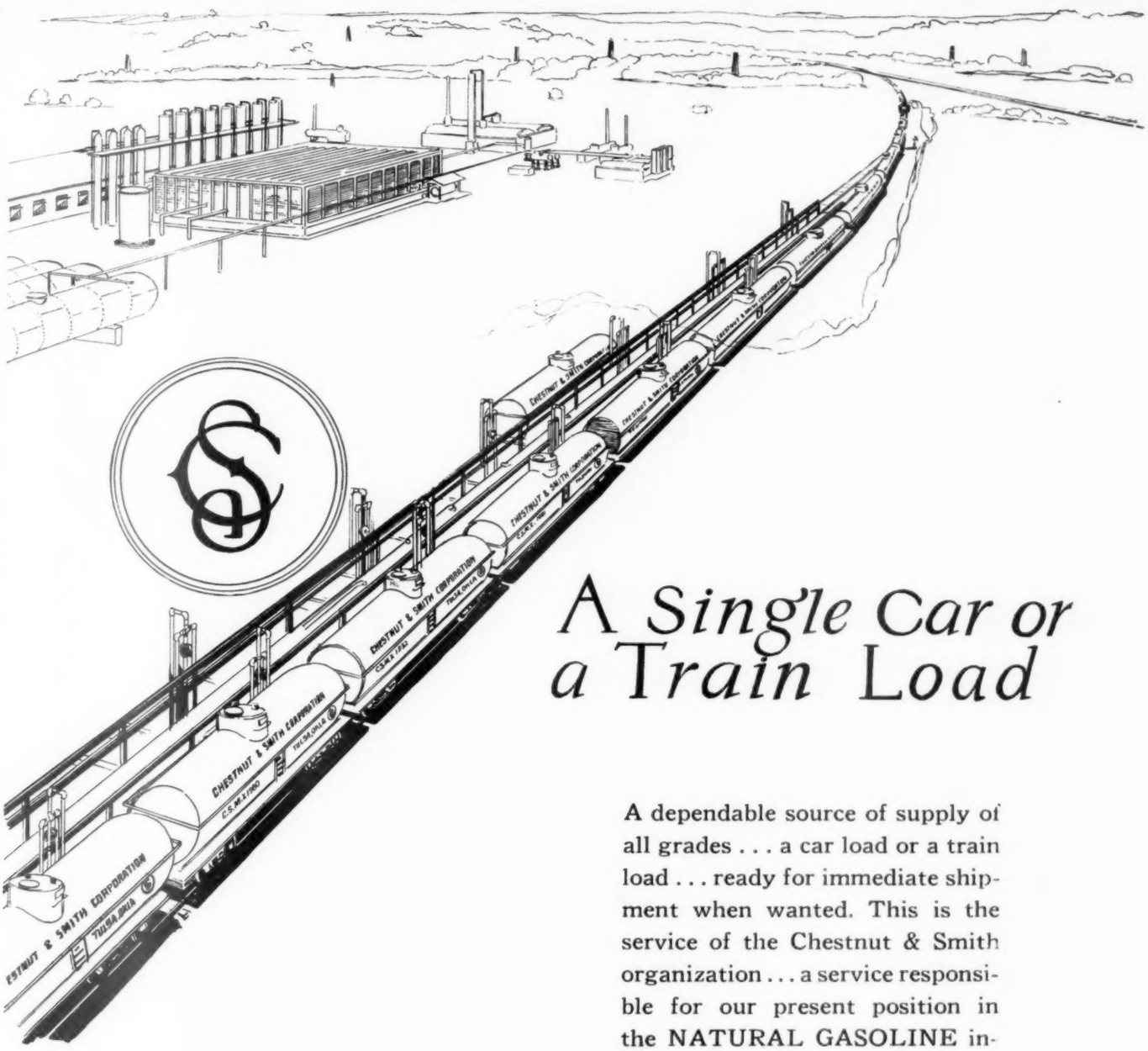

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FIG. 1

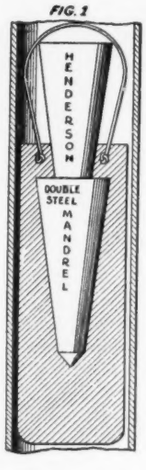

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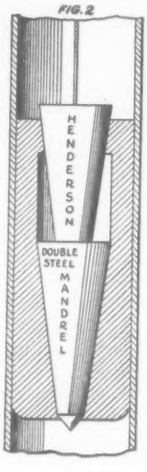
FIG. 2



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were only half those indicated in Figure 2.

The "per cent unsaturated" refers to the volumetric loss found when the distillate to 450 degrees Fahrenheit standard column vapor temperature was treated with 1.84 specific gravity sulfuric acid at 0 degrees Fahrenheit. This is recognized as being a purely empirical measurement, but at least qualitatively indicative of the olefin content of the gasolines and therefore of some interest. No attempt was made to distinguish between the unsaturateds in the gasoline produced by cracking and those of the gasoline contained in the oil charged to the bomb.

The extent of the cracking of each of

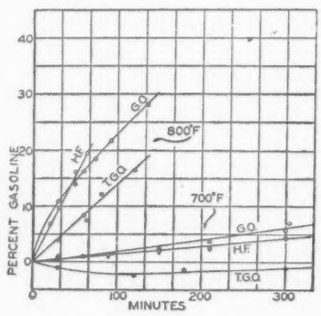

Figure 2—Temperature Correction Curves for 800° F. Runs.

the oils at 700 and 800 degrees Fahrenheit is shown in Figure 3. Several facts of importance are clearly illustrated.

The rate of cracking of gas oil and heavy fuel is slow at 700 degrees Fahrenheit, but at 800 degrees Fahrenheit it is rapid. The approximate rule that the rate of a chemical reaction doubles for every 10 degrees Centigrade or 18 degrees Fahrenheit rise in temperature holds fairly well. The data indicate a doubling for every 12 degrees Centigrade, or 22 degrees Fahrenheit, when gasoline is formed from gas oil or heavy fuel oil.

The thermolized gas oil cracks in a negative sense at 700 degrees Fahrenheit, that is less gasoline is contained in the "cracked" oil than in the thermolized gas oil used. This is a striking illus-

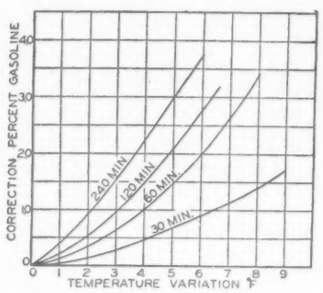

Figure 3—Time Per Cent Isotherms, No Vapor Removed.

tration of the fact that reactions of polymerization and condensation are concurrent with decompositions resulting in products of lower molecular weight than the oil treated. The thermolized gas oil was made from a Dubbs process residual oil, and therefore the hydrocarbons and other substances contained therein are presumably quite different from those of virgin gas oil or fuel oil. One would not expect extensive decomposition at 700 degrees Fahrenheit, a temperature much lower than the cracking temperature used in the Dubbs plant. However, at 800 degrees Fahrenheit the thermolized gas oil cracks to form lower boiling substances, but at a rate only half that at which the heavy fuel cracks and materially lower than that at which gas oil decomposes.

Cycle Stocks

These facts are of considerable importance in their bearing upon the use of "cycle-stocks," or oils cracked once or more, as commercial charging stocks. If they are used, a rate of cracking roughly half that of new oil must be expected. However, the gasoline so made might conceivably be so olefinic and cyclic in character as to have valuable antiknock properties. This is indicated by the high specific gravity, as will be seen later.

The time-yield curves for gas oil and heavy fuel cross, both at 700 and 800 degrees Fahrenheit cracking temperature. Apparently, gas oil contains some substances of such molecular weight or character that scission results in two products of gasoline boiling range rather than one of low and one of high boiling point. This is more evident when working at 800 degrees Fahrenheit than at 700 degrees Fahrenheit.

The time-yield curves, except for the 800 degrees Fahrenheit gas oil curve, are straight lines or substantially straight lines. It is evident, however, that had the reaction times been longer these curves would necessarily have shown a decreasing slope.

Originally, it was intended that a series of experiments would be made using a cracking temperature of 900 degrees Fahrenheit. However, cracking was so rapid at 800 degrees Fahrenheit that runs at higher temperatures were practically out of the question. A run 10 minutes long at 830 degrees Fahrenheit resulted in the formation of 13.4 per cent of gasoline and caused the development of 1,200 pounds pressure within the bomb.

Although the process of cracking is complicated because of the many substances present in the reaction mixture, it may be considered as involving scission of high molecular weight substances followed by recombination of part of the lower molecular weight substances to form substances of high molecular weight. The first reaction is of the first order and the second of the second order.

Considering cracking as a reaction of the first order, the reaction constants have been calculated. The equation may be written

$$\frac{X}{At} = K$$

in which

X = per cent gasoline formed.
A = (100 — X) or the per cent of crackable material remaining
t = time in minutes
K = the reaction constant

Although, strictly speaking, a formulation of this character should be in terms of mols of the reacting substance and the product, this is quite out of the question in this instance. The molecular weights are not known.

Table 3—Cracking Reaction Constants

t	A	X	K
	Temperature 700° F.		
	Fractionated Gas Oil		
30	99.5	0.5	0.000167
60	99.0	1.0	0.000169
90	98.8	1.2	0.000135
150	97.4	2.6	0.000178
212	96.3	3.7	0.000181
300	94.2	5.8	0.000205
	Heavy Fuel Oil		
30	99.2	0.8	0.000269
60	99.0	1.0	0.000169
90	98.5	1.5	0.000169
150	98.0	2.0	0.000136
210	97.5	2.5	0.000122
300	95.6	4.4	0.000153
t	A	X	K
	Temperature 800° F.		
	Fractionated Gas Oil		
30	89.1	10.9	0.00407
49	86.0	14.0	0.00332
59	83.5	16.5	0.00335
60	83.7	16.3	0.00324
73	81.5	18.5	0.00311
91	78.3	21.7	0.00304
134	71.9	28.1	0.00292
	Heavy Fuel Oil		
20	93.1	6.9	0.00370
20	93.3	6.7	0.00359
31	90.3	9.7	0.00346
50	83.8	16.2	0.00385
63	80.5	19.5	0.00385
	Thermolized Gas Oil		
30	96.2	3.8	0.00132
60	91.6	8.4	0.00153
63	93.1	6.9	0.00118
78	87.0	12.1	0.00177
120	83.5	16.4	0.00164

Inspection of Table 3, in which the reaction constant values are given for the three oils, cracked at 700 and 800 degrees Fahrenheit, shows that the formation of gasoline can reasonably be regarded as a reaction of the first order. The variation in value of the constant for gasoline formation at 700 degrees Fahrenheit is not greater than would be expected when it is considered that the amount of gasoline formed at this temperature was 0.5 to 5.8 per cent. An error of 0.5 per cent in the distillation analysis of either the blank or the sample would

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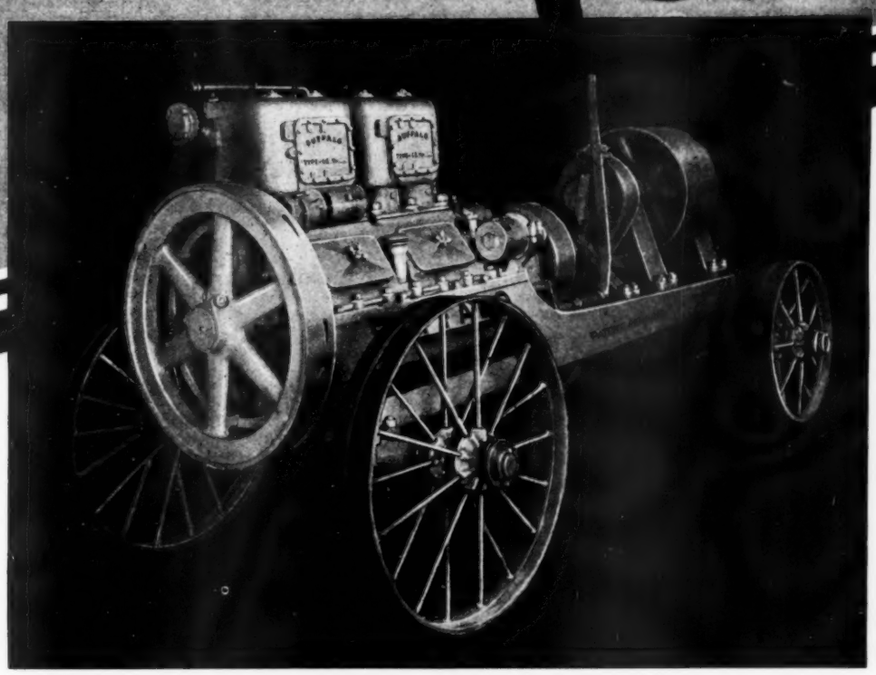

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Bartlesville, Okla.
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Cracking Heavy Pets

The most reliable data are those for the cracking of heavy fuel oil at 800 degrees Fahrenheit. The formation of gasoline was sufficient to permit accurate determination. The greatest variation of the value of the reaction constant is only 6.3

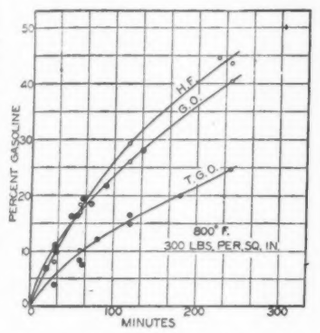

Figure 4—Time-Per Cent 800° F. Isotherms With Vapor Removed.

per cent from the mean value 0.00369. All the other values are within ± 4.4 per cent.

Apparently the formation of gasoline from thermolized gas oil is essentially a first order reaction. Here again some of the actual gasoline percentages are low, and the chance of analytical error large. However, the values of the reaction constants for the the two longest reaction times are in good agreement.

The cracking of fractionated gas oil presents the only real anomaly. The value of the reaction constant becomes less as the reaction proceeds for a longer time; that is, gasoline is formed more rapidly initially than later. A possible and plausible explanation of this is that gas oil contains a considerable percentage of material of such boiling point that, if cracked, it would yield, not one, but two new molecules within the gasoline boiling range. Although this material may not be so reactive as that of high molecular weight, it nevertheless may contribute sufficient gasoline to cause the initial high formation rate. It will be noted that as cracking proceeds the reaction constant approaches a value of about 0.00300.

Brain Gets Less Than Brawn in Baku Field; Can't Fire a Worker

Basil B. Zavoico, in a detailed article in the Petroleum Times (London) on the Russian oil fields, gives an interesting description of labor conditions in the Baku Field.

The total number of men employed in the Baku district decreased from 49,000 in October, 1924, to 45,000 in October, 1925, writes Mr. Zavoico. This drop is due entirely to the decrease in unskilled labor. The decrease resulted from the usual migration of labor, while the increase was checked by the strict order of the main office not to engage new men. At the same time the lack of skilled labor is still being felt badly.

It must be understood that the Azneft administration is not free to dispose of its labor, as are the big corporations of the United States. In the first place, labor has much power, and in the second place Caucasus does not support any other major industry that could take care of the readjustment in the oil areas. Thus the Azneft's only possible way of decreasing the total number is to release the men wishing to leave and not to engage new workers.

The factor of decreasing labor is perhaps the most encouraging sign in the Azneft's district, since the proportional decrease in wages will give a wider margin of profits. The drop of 4,000 men during last year gives Azneft already a saving of $1,340,000 per year. Further decreases will undoubtedly take place, but after reaching a certain point they cannot be regarded in whole as saving, since the increased efficiency of the remaining part will tend to push the wages to higher levels. However, such a point will not be reached for at least two years, and the decreases during that period might be considered as net saving.

The wages of labor were continuously increasing during the last two years, and the general welfare of the field workers was considerably improved. The salaries of administration officers, engineers and office workers made considerable increases for the first time since nationalization. This increase is in line with the new policy of the Soviet Government, recognizing the trained workers as an important factor in building up the country.

Average of Wages and Salaries in the Baku District

(Per month, in United States dollars.)

	1921	1922	1923	1924	1925
March	$2.25	$7.50	$14.10	$23.35	$25.00
Sept.	$3.75	$11.85	$14.10	$23.10	$30.00

The salaries for administration officers and engineers average about $150 per month, with variations from $90 to $250. The improvements in this class are radical, since salaries of former years were similar to the wages of labor or slightly higher. The increases in the wages and salaries will undoubtedly create much better living conditions and thus stimulate better efficiency.

One of the latest innovations of the Azneft is the premium plan of production. The production of a group of wells for the previous three months is averaged and taken as 100 per cent. For any increase in the fourth following month the whole personnel of the given area is to be rewarded. The administration of the field is free to exclude any man from the reward list in case it considers the worker did not deserve the bonus.

The cost per barrel during the 1924-25 operating year is estimated at $1.33, at the tank farms of Baku. This figure includes the interest charges on loans, depreciation and present expenditures in Europe and the United States. The 1925-26 year will show a higher cost per barrel, due to increased orders for equipment placed outside of Russia.

JOINT MEETING IN DENVER

WASHINGTON, D. C., Aug. 28.—Arrangements are rapidly nearing completion for the joint convention of the Western Division of the American Mining Congress, American Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists, and the American Silver Producers' Association at Denver, September 20-24. Prominent Government officials and outstanding mining men of the country will deliver addresses on important problems affecting the industry. Preliminary details for the convention are being handled by Jesse F. McDonald and M. B. Tomblin of the Western Division, the Colorado Mining Association, and the Colorado Chapter of the American Mining Congress. At an afternoon session on September 21, Alexander W. McCoy will preside over a meeting of the American Association of Petroleum Geologists, which will consider questions concerning the geology of western Kansas, Oklahoma and Texas, to be followed by a banquet that evening.

NO DRAKE DAY CELEBRATION

There will be no formal or organized celebration of Drake Day this year, according to an announcement made to the Oil City Derrick by George H. Torrey, chairman of the Drake Day Association. Lack of attention paid to this occasion and lagging interest in it were the reasons advanced by Mr. Torrey for the abandonment of the Drake Day idea which has been adhered to for some years. "The present generation is not interested in this as the older ones were," stated Mr. Torrey.

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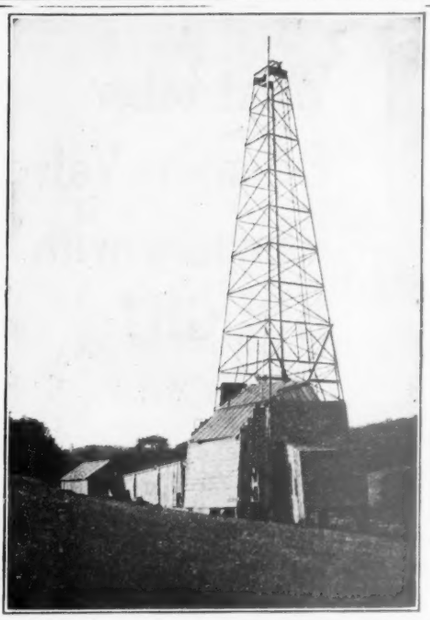

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POTASH DEPOSITS IN SOUTHWEST OFFER OPPORTUNITY TO OIL MEN

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 28.—There is a vast domain in Texas and New Mexico so extensive in potash that the great German potash industry becomes insignificant in respect to the widespread distribution of the American product; while the French potash industry of Alsace is no restricted as to be lost if it were dropped anywhere in this great American potash area.

Incidentally but of tremendous importance to the oil industry is the fact that events have almost turned over this great potash industry to the oil producing companies because they are on the ground and know the geology of the area and because these discoveries of such deposits have been made and are being made by the drilling of oil wells.

These discoveries are now in their infancy but the men most familiar with them are satisfied that there is most ample fertilizer in these deposits for the entire agriculture needs of the country when it faces, as it is beginning to face, soil exhaustion.

Nearly all the knowledge now in possession of the United States Geological Survey, the one governmental store house of such information, has been gathered from the record contained in the borings taken from oil wells. These borings are beginning to show the area and degree of richness of potash deposits over a vast territory of the Southwest. So vast is this potash domain that all Germany might be almost superimposed upon it without reaching its extreme borders and of course, the German potash deposits while quite widely distributed over Germany occupy but a small percentage of that territory. Potash deposits of Alsace now under French domination cover an area of only about 10 by 15 miles.

Awaits Development

The significance of these statements is that the entire oil producing industry should awaken to the vast treasure that will be developed by carefully preserving and making accessible to the Geological Survey the records of borings from every well drilled. It is too early to make definite statements regarding the actual value of particular localities and it is conceived that only large producing companies covering a vast area where there are rich potash deposits and with extensive financial backing will be able to profit by the development of this industry.

These conditions should be a warning to the small investor in oil leases, not to place too much importance upon any immediate return on his investment nor any return, in fact, unless he can command sufficient capital to operate a potash industry on a large scale.

Regarding the utilization of fertilizer in this country, so far as Texas deposits are concerned, we are in the same situation as Germany. We have a superabundance of potash without a market. Germany stimulated the market for its products because afterwards it became evident that the utilization of potash was beneficial and repaid the investment in fertilization of the soil by developing better crops. The western area of the United States at present is in approximately the same condition that Germany was some 40 years ago, when they had a very promising potash deposit but were without any adequate market.

The oil companies are on the ground in Texas and they know the geological conditions and are in a position to take advantage of the opportunities presented there, although it must be remembered that the development of these deposits will call for a heavy expenditure of money without a profitable return on the investment at the beginning. Those companies that are capable of grasping the import of this situation on an accurate, scientific and engineering basis, will find themselves in the future in control of a profitable industry.

What may be done by companies that may be organized for the sole purpose of developing potash deposits under lease for this mineral, is of course a matter of speculation. It may be that such companies will bring wealth to the smaller operator with restricted area and with small financial resources. His potash holding will naturally carry a value on which he can realize, in various ways.

Search for Potash

It was first discovered in 1859 that mineral salts found in deposits with common salt possessed value as a fertilizer. The first investigation underground took place in 1861, with a subsequent development of the great potash industry of Germany.

In 1912, the presence of potash in the Permian salts was first demonstrated but not until 1920 was there a concentrated effort made to collect data in the field, which up to the present have shown results of increasing prominence and that led to a definite belief that commercial production was eventually accomplished.

In 1924, in the report of "Mineral Resources," a number of graphs were given of wells which had been analyzed in detail.

At this time more than 60 wells have been examined in the laboratory of the Geological Survey, giving indications of the presence of potash. Of this number, 5 per cent indicate very favorable showings of potash.

Until recently all deductions had to be based on cuttings obtained from wells drilled for oil, which nevertheless have furnished surprising results.

Any oil producer may receive information respecting the potash wealth of his property, if it contains potash, by getting in touch with the Geological Survey. The survey will advise him in respect to the preservation of his records and its experts will analyze them.

The Geological Survey is not permitted to give any detailed chemical analyses to private parties before they are made public but the record of the analyses of any wells is of distinct advantage to the landowner in case he has anything of value, as the Government analyses are usually accepted as authoritative.

Many of the oil leases cover only the oil itself but it is now getting to be quite the custom for lessees to make their leases cover not only oil but minerals and, of course, without the extension of the rights as lessee over the minerals the potash would belong to the owner of the surface.

Value of Deposits

If it had not been for the work of the Government in investigating and making public reports the present knowledge of the value of the potash underlying these oil fields would not be what it is today. These Government reports are in fact the most valuable that any oil lease holder could desire because they are accepted with the widest possible confidence and in no way contain information assembled for the purpose of either exaggeration or undervaluing the importance of the property.

While the value of these potash deposits in Texas and New Mexico will not be fully determined for many years to come, the fact has been determined that they lie from 800 to 2,000 feet below the surface of the soil. The French potash deposits are something around 1,700 to 2,200 feet deep, while the deposits of Germany will run 3,600 feet below the soil. It will be seen by this comparison that the potash of the Southwest has the very great advantage of being nearer the surface than any other deposits of that kind in Europe, making the cost of mining simpler and less expensive.

About four years ago, Walter B. Lang, geologist, was designated by the United States Geological Survey to un-

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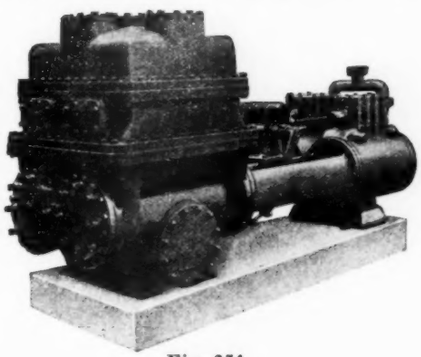

Fig. 354

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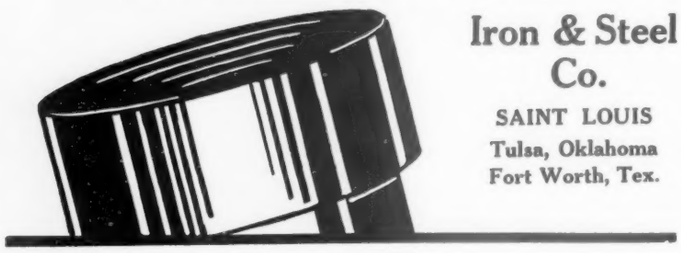

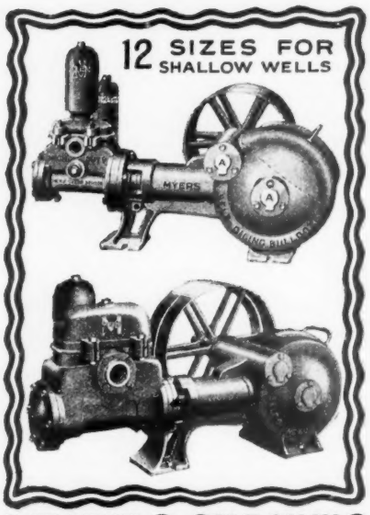

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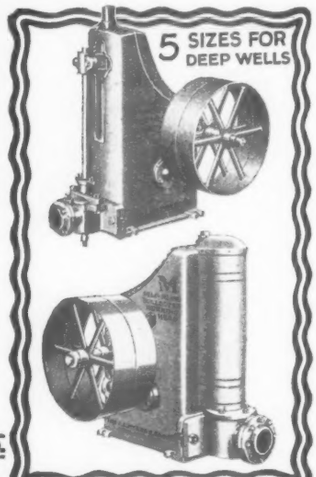

dertake this investigation which he has pursued since that time. Practically every thing that is known in respect to potash is the result of the investigation of Mr. Lang, who has collected a vast amount of data.

Mr. Lang has discussed these matters very fully in a publication of the Geological Survey, about to be made available to the industry as Bulletin 785 B.

The discovery of potash in the Texas Permian resulted from the drilling of a deep test well for water south of Spur in Dickins County. As analyses of brines from a depth of 2,200 feet in this hole, yielded 5.4 per cent of potassium calculated as chloride and thereby gave impetus to an investigation that persisted to the present day.

Potash has also been found in the Markham Salt Dome, near Markham, Tex., and in a well drilled in Grant County, Utah.

The evidence so far obtained, except that from the Markham Dome, has come from a study of cuttings and sludges from wells drilled solely for the purpose of discovering or producing petroleum. Only four tests have been begun with the primary intention of exploration for potash. All four of these tests have failed either to penetrate the salts or to encounter showings of potash.

Significant Results

Some of the most significant results were obtained from the Cowden well, in Crane County, the Mid-Kansas-Harris Brothers' well, in Crockett County; the Texon No. 1 well, in Reagan County; and the Gray No. 1 well, in Matagorda County, all in Texas; and the Crescent Eagle well, in Grant County, Utah.

In Texas, analyses have been made from samples from Borden, Carson, Crane, Crockett, Gray, Matagorda, Mitchell, Reagan and Scurry Counties.

"The discovery of potash in the Cowden well in Crane County," said Mr. Lang, "has served to strengthen a former conviction that to the east in a belt roughly parallel to Pecos River, thick deposits of salt would be found with good showings of potash. This well serves to add another link to a chain of evidence that the region extending in a southeasterly direction from Lea County, New Mexico, to western Crockett County, Texas, is likely to prove the most favorable area for potash exploration. The character of the cuttings and the analyses of the salts in the Means well in Loving County, the River well in Ward County, the Cowden well in Crane County, the recent Virginia-Texas well in Upton County, and the Mid-Kansas Harris Brothers well in Crockett County, all show that this extensive area is underlaid by many potash-rich beds. It is hoped that in the near future more wells will be drilled in this general region and that the operating companies will find it to their interest to sample carefully when drilling through the salts.

Reagan County's Showing

"From information now available from wells in the Reagan County Field, it appears that the best showings of potash will be found in a sector from the east to the southwest of Texon and to the west and southwest. In case core drilling is contemplated a location should be selected near wells which under close sampling showed high percentages at different horizons. Analyses of samples now available from territory north of the Reagan County Field suggest a thinning of the deposits of potash in that general direction.

"It is essential for accuracy of correlation of data that the conditions of drilling be maintained as nearly constant as possible if satisfactory analyses of samples are to be obtained," says Mr. Lang. "Changes in the rate of drilling, the penetration of water sands, introducing small but often unknown flows of water, the ineffectual shutting off of water by improper setting of the casing, and many other conditions encountered in the customary wildcat drilling practice make it difficult to obtain reliable material for analysis and comparison.

"Salt samples taken from the bailer should never be washed longer than is absolutely necessary to remove the excess of fine sludge, and the cuttings should then be immediately spread out upon a board to dry. Under no circumstances should hot water be used to wash the bailings.

"Where a core drill test for potash is desired on a new location, greater speed and economy would result by churn drilling with a portable rig the formations overlying the salt beds. After reaching the top salts, which may lie anywhere from 400 to 2,000 feet below the surface, depending upon the location, the diamond drilling machinery may be moved into position to core the salt beds, a saturated brine, or better, a 30 per cent magnesium chloride solution being used for drilling water to prevent loss of core."

There are excellent opportunities to test old oil wells in western Texas to determine potash content, at a nominal cost and with a reasonable assurance of success. Information in respect to such wells wherever there is an intention to drill deeper for oil will be furnished by the Geological Survey.

Mining Necessary

So far as is known at the present time mining will be necessary to extract the potash, as the mineral polyhalite which carries the potash, is relatively insoluble in comparison with the associated halite.

Very recently the Department of the Interior, in its search for potash deposits in Texas and New Mexico, through the Geological Survey, announced the discovery of potash in 15 additional wells, distributed in seven counties in the western Texas region and in one county in New Mexico. Reagan, Pecos and Upton Counties each contain three of the wells, Crane County two, and Loving, Midland and Ward Counties, in Texas, and Eddy County, in New Mexico, one each. There are now 48 wells in 17 counties of Texas and 2 wells in one county in New Mexico, or a total of 50 wells in 18 counties in the two states named that have furnished potash data available at the Geological Survey.

The laboratory examinations of the cuttings from these 15 wells included qualitative tests of 710 samples and quantitative determination of 217 samples. Of the last mentioned samples 117 yielded more than 1.5 per cent of potash (K20), and 11 yielded more than 5 per cent.

The richest sample, which contained 13.6 per cent of potash (K20), equivalent to 21.13 per cent of the soluble salts, was taken at a depth of 1,515 feet in the Gulf Production Co.'s Campbell State well, Reagan County. Another sample containing 12.72 per cent of potash, was taken somewhere in the interval 1,060 to 1,155 feet in the Mary Baker No. 1 (discovery well), Upton County. Three other wells furnished samples containing more than 9 per cent of potash—namely, the Cordona, Oil & Potash Co.'s No. 1 Cowden well, Crane County, 9.6 per cent at 936 to 940 feet; the Hills Brothers' No. 1 well, Midland County, 9.5 per cent at 2,220 to 2,230 feet; and the Gulf Production Co.'s Sowell State well, Reagan County, 9.16 per cent at 1,210 to 1,230 feet. The best samples from the other wells included in the tests, together with the depths from which they were taken, are as follows:

California Co.'s well, Reagan County, 8.25 per cent at 1,505 to 1,510 feet; Sherbino Brothers' well, Pecos County, 7.83 per cent at 1,105 to 1,115 feet; Plateau well, Upton County, 7.24 per cent at 1,115 to 1,120 feet; No. 1 Burleson well, Upton County, 6.51 per cent at 1,280 to 1,295 feet; No. 1 Stevens well, Eddy County, New Mexico, 5.4 per cent at 800 to 900 feet; No. 3 Cowden well, Crane County, 5.35 per cent at 1,435 to 1,439 feet; No. 1 White & Baker well, Pecos County, 3.52 per cent at 1,260 to 1,275 feet; No. 1 Hutching well, Ward County, 3.38 per cent at 1,345 feet; Devlin No. 1 well, Pecos County, 2.94 per cent at 1,762 feet; and Wheat well, Loving County, 2.9 per cent at 1,143 to 1,150 feet.

Several of the well records show intervals of greater or less extent represented by two or more samples containing considerable percentages of potash. For example, in the Cordona well, Crane

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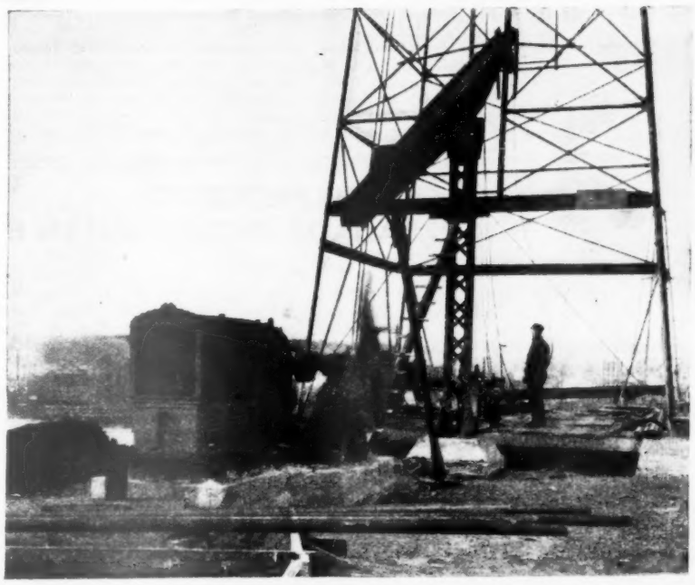

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County, the interval from 936 to 944 feet, is represented by two samples containing 9.6 and 3.72 per cent, of potash. In addition one sample from the interval between 917 and 922 feet contained 5.4 per cent. In the No. 1 Burleson well, Upton County, a sample from 1,265 to 1,280 feet contained 4.25 per cent, and another from 1,280 to 1,295 feet contained 6.51 per cent. In the California Co. well, Reagan County, there are three intervals noteworthy for the potash content of their respective samples. Thus four samples from the interval 1,495 to 1,535 feet ranged from 3.28 to 8.25 per cent of potash, and four more from 1,710 to 1,735 feet ranged from 3.14 to 3.48 per cent. Two more samples from 1,460 to 1,470 feet, each supposedly representing 5 feet, contained 4.34 and 5.86 per cent. The Hutching well, Ward County, furnished three noteworthy samples from 10-foot intervals and two from 15-foot intervals. These ranged from 2.55 to 3.38 per cent in potash content and from 880 to 1,355 feet in depth. The Sowell State well, Reagan County, furnished two samples from 20-foot contiguous intervals, 1,210 to 1,230 and 1,230 to 1,250 feet containing 9.16 and 4.2 per cent of potash. A deeper sample taken at 1,450 to 1,470 feet contained 3.18 per cent. The Mary Baker No. 1 well, Upton County, in addition to the rich sample noted above, furnished a lower grade sample, containing 4.73 per cent from the interval between 715 and 1,050 feet. This interval is so large that the sample can not be considered in any way representative. The sample suggests, however, the desirability of more detailed exploration for potash where salt beds are penetrated.

VALUE OF REFINED PRODUCTS IN CANADA INCREASED IN 1925

By Victor Lauriston

CHATHAM, Ont., Aug. 28.—Official figures just made public by the Dominion Bureau of Statistics at Ottawa show that in the year 1925, some 13 refineries were in operation in Canada. Of these refineries, 3 were in Ontario, 3 in Alberta, 2 in Quebec, 2 in British Columbia, and 1 each in Nova Scotia, Manitoba and Saskatchewan. In addition there were eight plants producing lubricating oils, greases and similar lines, of which four were situated in Ontario, two in Quebec and one each in New Brunswick and Alberta.

The output of petroleum products from Canadian plants in 1925 amounted in value to $50,762,127. This value, the highest shown for the industry since 1922, compared with output values of $49,411,067 in 1924 and $46,280,534 in 1923.

With a capital investment of $50,580,549 and an average employment of 3,738 persons, the refining of petroleum and the compounding of lubricating oils and greases represents one of the most important industries in Canada. Production from the 13 refineries operating in 1925 totaled $49,802,615; while the 8 plants manufacturing only lubricating oils, greases, etc., produced $959,512 worth of these commodities for sale.

Raw materials cost $38,261,024, the value added by manufacturing amounting to $12,501,103. Expenditures for salaries and wages during the year totaled $5,775,046.

In the 1925 refining operations, the amount of Canadian crude used in the industry was 12,337,192 imperial gallons, valued at $1,511,181, compared with 5,172,903 imperial gallons, valued at $403,099 used in the previous year. Imported crudes in 1925 aggregated 432,781,409 imperial gallons, valued at $33,344,615, compared with 361,974,302 imperial gallons, valued at $33,018,885 used in 1924.

Year	No. of Plants	Capital Employed	No. of Employes	Salaries and Wages	Cost of Materials	Selling Value of Products	Value Added by Manufacturing
1921	16	$57,564,588	4,014	$6,182,514	$36,629,576	$52,932,415	$16,302,839
1922	19	62,054,029	3,555	5,492,683	38,413,191	57,035,563	18,622,372
1923	20	61,027,704	4,257	5,648,320	36,816,696	46,280,534	9,463,838
1924	25	53,795,794	3,669	5,749,705	37,092,711	49,411,067	12,318,356
1925	21	50,580,549	3,738	5,775,046	38,261,024	50,762,127	12,501,103

THE PETROLEUM PRODUCTS INDUSTRY IN CANADA, 1925

Table 2—Principal Statistics of the Petroleum Products Industry in Canada, by Provinces, 1924 and 1925

	1924				1925			
	No. of Plants	No. of Employes	Salaries and wages	Selling Value of Products	No. of Plants	No. of Employes	Salaries and wages	Selling Value of Products
Quebec	4	587	$ 865,129	$ 7,044,019	4	676	$ 979,712	$ 8,667,838
Ontario	8	1,650	2,547,147	18,717,516	7	1,824	2,797,730	20,425,864
Alberta	8	416	670,483	5,944,273	4	227	373,757	5,458,412
*Canada	25	3,669	$5,749,705	$49,411,067	21	3,738	$5,775,046	$50,762,127

*Includes also data for two plants in British Columbia and one in each of Nova Scotia, New Brunswick, Manitoba and Saskatchewan.

Table 3—Materials Used in Petroleum Products Industry in Canada, 1924 and 1925

	1924		1925	
	Quantity	Cost at Works	Quantity	Cost at Works
Crude oil (Canadian) Imp. Gal.	5,172,903	$ 403,099	12,337,192	$ 1,511,181
Crude oil (imported) Imp. Gal.	361,974,302	33,018,885	432,781,409	33,344,615
Sulphuric acid, pounds	57,693,733	605,383	42,843,604	447,528
Sulphur (not used in acid mfg.) pounds	90,955	2,625	141,265	3,988
Caustic soda, pounds	3,796,826	146,842	4,220,371	154,150
Litharge, pounds	315,723	30,197	549,450	59,825
Animal oils, gallons	26,183	25,779	32,438	30,656
Fullers earth, pounds	954,623	13,495	1,281,190	14,433
Compounding materials	.....	736,516	.....	510,735
Mineral oils, gallons	1,048,826	232,295	948,110	209,803
Other oils and greases, gallons	.....	132,025	.....	171,000
All other materials	.....	252,268	.....	267,671
Shipping containers, boxes, bbls., etc.	.....	1,493,302	.....	1,535,439
Total	.....	$37,092,711	.....	$38,261,024

Table 4—Products of the Petroleum Products Industry in Canada, 1924 and 1925

	1924		1925	
	Quantity	Selling Value	Quantity	Selling Value
(a) Made for sale—				
Gasoline, Imp. Gals.	160,222,541	$25,844,047	165,769,475	$27,917,151
Petroleum spirits, Imp. Gals.	788,529	132,087	1,137,656	199,596
Kerosene, Imp. Gals.	61,296,285	7,487,457	45,012,566	5,967,298
Fuel and gas oil, Imp. Gals.	134,941,640	7,169,187	135,954,156	7,771,405
Lubricating oils, Imp. Gals.	15,467,084	3,058,199	15,775,654	3,129,228
Grease, pounds	10,434,621	260,591	9,411,396	247,905
Petroleum coke, short tons	30,566	221,668	28,856	218,105
Wax and candles, pounds	9,112,041	551,422	15,736,670	734,308
Asphalt, gallons	20,170,503	1,816,772	19,940,729	1,845,402
Other products, gallons	.....	442,303	.....	312,569
Total	.....	$46,992,051	.....	$48,342,971
(b) Intermediate Products made for use (chiefly as fuel) in the manufacture of petroleum products in Canada—				
Gasoline, Imp. Gals.	23,198	3,172	20,597	3,386
Kerosene, Imp. Gals.	32,182	2,985	33,893	4,015
Fuel and gas oils, Imp. Gals.	42,181,592	1,907,559	36,433,086	1,880,850
Lubricating oils, Imp. Gals.	12,381	2,917	14,198	2,406
Petroleum coke, short tons	7,536	48,735	5,163	30,586
Acid coke, short tons	11,223	42,118	9,170	33,014
Acid oil, Imp. Gals.	1,568,094	71,672	1,395,470	64,030
Still gas, M. Cu. Ft.	1,186,787	302,946	1,019,755	360,646
Other products	.....	36,912	.....	40,223
Total	.....	$ 2,419,016	.....	$ 2,419,156
Grand total	.....	49,511,067	.....	50,762,127

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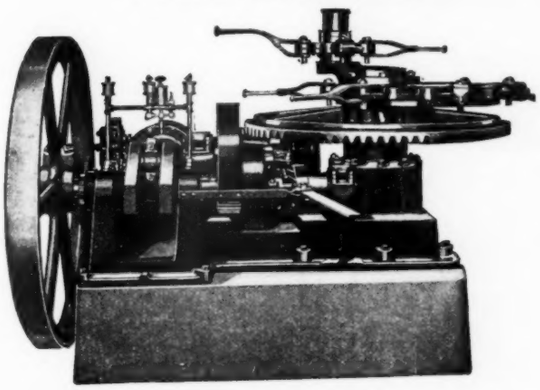

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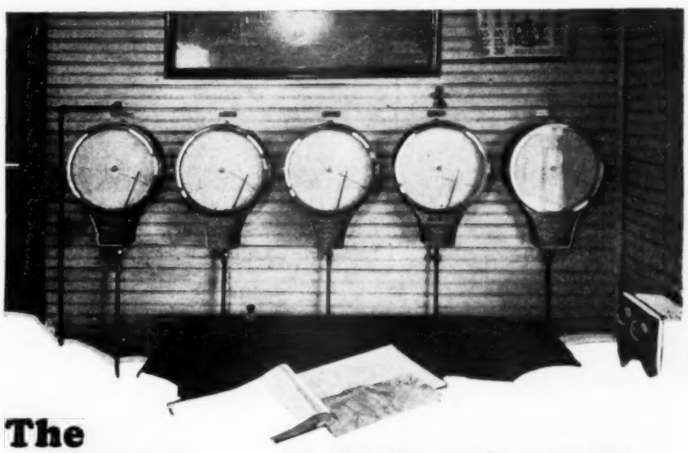

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Synthetic Petroleum Substitutes Engaging Attention in Germany

By Charles E. Kern
Washington Bureau,
The Oil and Gas Journal

WASHINGTON, D. C., Aug. 28.—Plans of the German dye trust to produce synthetic petroleum substitutes have been reported to the Department of Commerce by Trade Commissioner William T. Daugherty at Berlin. Mr. Daugherty reviews these plans and places great importance upon the reports current in Germany about them. He says they may emancipate Germany wholly or in part from its dependence upon imports of petroleum.

This proposed development by the Germen dye trust is no less than a plan to manufacture oil from coal, and Mr. Daugherty quotes an article in the Berliner Boersen Courier in explanation.

It seems that the Badische company acquired an interest in the Berlin coal hydrogenation patents and in certain Riebeck Montan & Oelwerke patents covering lignite distillation when it bought the Stinnes shares in the former Hugo Stinnes-Riebeck Montan & Oelwerke A. G., of Halle-saale. The Boersen Courier, quoting Chemiker Zeitung, says:

"The much-mooted question of producing on a large scale gasoline or gasoline substitutes has been so far solved from a technical standpoint that it is proposed to erect commercial plants for this purpose. It may be expected that within about two years from 250,000 to 300,000 tons of new motor fuels will be produced, along with available production of benzol, motalin (the new Badische antiknock fuel being sold by Deutsche Gasoline Akt. Ges., formerly the Riebeck concern), and other motor fuels."

Commercial Operation

If the operation of the Berlin process is in question, this naturally would resurrect plans advanced a year or more ago to put this coal hydrogenation process into commercial operation, according to Mr. Daugherty's report. Despite reports to the contrary, the Berlin process was not put on a commercial footing, although it is thought that, barring certain disadvantages, its production cost might make it commercial. The Badische company has been doing further research on processes for a yield of oils from coal.

The discussed potential production of 250,000 to 300,000 tons of petroleum substitutes is about one-fifth of current German consumption. The United States sold Germany some 670,000 tons out of the total 1925 imports of more than 1,000,000 tons of liquid petroleum products. The present per capita consumption of oils in Germany amounts to only 10 liters, as compared with 120 liters in England and 960 liters in the United States.

Much favorable comment, continues Mr. Daugherty, is forthcoming in Berlin on the reported revolutionary achievement of Franz Fischer and Hans Tropsch, of the Coal Research Institute at Mulheim, coinventors of the much-advertised "Synthol." While "Synthol" was produced under considerable pressure and high temperature, their latest "oils from coal" are said to be produced at ordinary pressures and at the comparatively low temperature of 270 degrees Centigrade.

One of the large difficulties in this synthetic production has to do with pressures, concerning which Mr. Daugherty's report says:

Pressure a Problem

"If the Coal Research Institute chemists have solved the petroleum substitute problem without the employment of pressure, they have removed one of the great difficulties so far handicapping processes of this kind. Pressure technique in the Bergin process, for instance, has been the great concern for years, not to mention the fact that from a chemical standpoint the oils recovered in high pressure processes are not petroleum hydrocarbons

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of aliphatic character, but are mostly aromatic, suitable for fuel oils, but not so much so as motor oils and lubricants. These oils, finally, have a high content of organic oxygen compounds, militating against their use in explosion and combustion motors. 'Synthol oils,' also so characterized, could be cleansed of these oxygen impurities and a liquid produced similar to gasoline, but the problem of a direct and simple transformation of coal into oil is not easily solved by high pressure application."

The Boersen Courier claims it has further information that large new plants are being erected near Bitterfield of an estimated capacity of 1,000 tons petroleum substitutes daily. It points out that this proposed production is not to be confused with the Badische's Motalin, brought out in January, 1926, a motor fuel charged with "motyl," with the iron carbonyl base, which the Germans claim is a better antiknock for internal combustion engines than the American contribution, namely, tetraethyl lead.

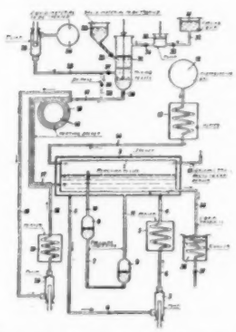
Another journal, "Industrie and Handelszeitung" (Berlin) states that despite denials, it believes the German dye trust plans to build "a second Leunawerke," probably in the northwest corner of the Province of Anhalt (Bodengebiet), on the course of the proposed Midland Canal. The journal adds that if this plan is carried out oil substitutes might be produced by lignite distillation and coal hydrogenation. In substantiation, it cites recent acquisition by the dye trust of the "Concordia" and "Jacob" lignite mines, as well as its interest in Riebeck Montan lignite distillation processes, since the Badische acquired about 20,000,000 marks worth of the former's 50,000,000 marks share capital when the Stinnes collapse occurred in August, 1925.

Recent Patents

1,592,058. Process for Refining Mineral Lubricating Oils. James W. Weir, Filmore, Calif. Filed May 14, 1925. Serial No. 30,355. 7 Claims. (Cl. 196—40.)

1. The process of refining lubricating oil stocks, which comprises treating relatively low viscosity lubricating oil stock with sulfuric acid until the action of the acid upon sand stock is substantially complete, then without removing the produced sludge from said treatment introducing relatively high viscosity lubricating oil stock to the admixture and commingling the same therewith, whereby the added oil stock is reacted upon by the acid sludge resulting from the sulfuric acid treatment of the original stock.

1,592,772. Process for Treating Carbon and Carbon Compounds Under Heat and Pressure. Freidrich Bergus, Berlin, Germany. Filed August 30, 1921, Serial No. 497,038, and in Germany January 23, 1915. 3 Claims. (Cl. 196—119.) (Granted under the provisions of the act of March 3, 1921, 41 Stat. L., 1313.)



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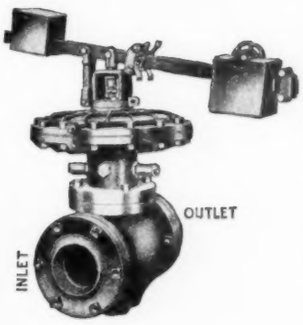

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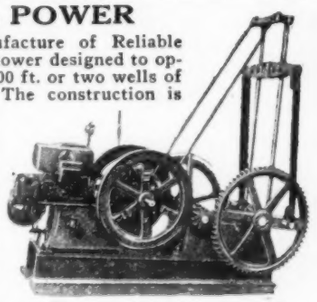

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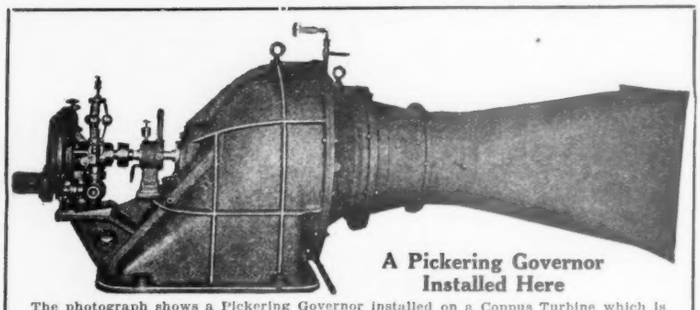

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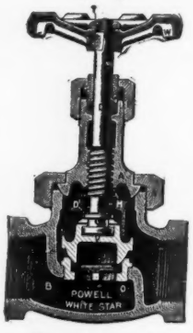

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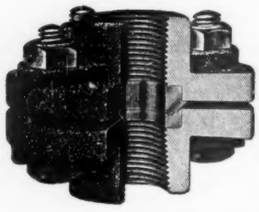

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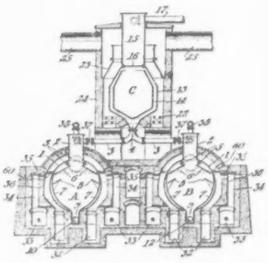
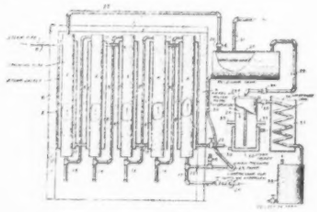
1,592,214. Apparatus for Cracking Oil. Ernest O. Linton, Hammond, Ind., assignor to Linton Gasoline Process Co., Chicago, Ill., a Corporation of Delaware. Filed October 17, 1922. Serial No. 595,144. 5 Claims. (Cl. 196—128.)



1. An oil cracking apparatus comprising a vaporizing chamber and means for heating the same, said chamber having therein extended inclined plates, means for delivering oil to and above said plates, and an exit pipe at its bottom; a vapor cracking retort constructed and arranged to provide for the vapors a shallow passage having heated walls, means for heating said retort, and a conduit of less diameter than the retort connecting the vaporizing chamber and the lower portion of said retort.

1,594,666. Process for Cracking Oil. Paul Danckwardt, Denver, Colo. Filed October 6, 1924. Serial No. 741,911. 8 Claims. (Cl. 196—53.)

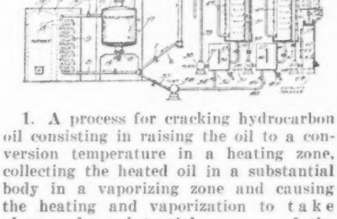


1. The process of producing hydrocarbons of low boiling points from hydrocarbons of higher boiling points, which consists in passing the vapors and gases from a cracking still through a mixture of molten sodium hydroxide and nickel.

1,593,893. Method of Dehydrating Crude Oil. Richard J. Barry, Houston, Tex. Filed December 4, 1925. Serial No. 73,259. 5 Claims. (Cl. 196—4.)

3. A method of separating emulsions of water and oil comprising placing the emulsion in a container, adding thereto small quantities of salt and diatomaceous clay, heating the mixture and drawing off the oil.

1,594,093. Process for Cracking Hydrocarbon Oil. Carbon P. Dubbs, Wilmette, Ill., assignor to the Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed October 21, 1922. Serial No. 595,947. 5 Claims. (Cl. 196—48.)



1. A process for cracking hydrocarbon oil consisting in raising the oil to a conversion temperature in a heating zone, collecting the heated oil in a substantial body in a vaporizing zone and causing the heating and vaporization to take place under substantial pressure of the evolved vapors, passing the vapors to a dephlegmating zone and there subjecting

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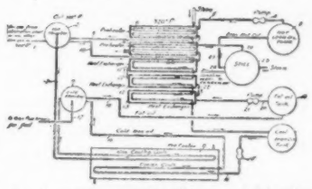
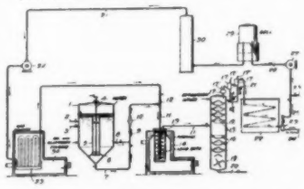
them to the refluxing action of the incoming raw oil, passing the uncondensed vapors under reduced pressure conditions to successive fractionating zones, condensing and collecting the uncondensed vapors passing over from the final zone, and returning selected portions of the condensate from each of the separate fractionating zones to the preceding fractionating zone.

1,594,014. Process of Treating Hydrocarbon Gases. Julius E. Kobernik, Fullerton, Calif., assignor to Newton Process Manufacturing Co., Fullerton, Calif., a corporation of California. Filed October 27, 1925. Serial No. 65,100. 4 Claims. (Cl. 196—8.)



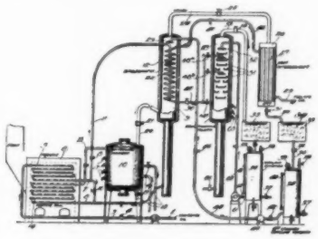
1. A process of distilling and blending hydrocarbons comprising causing a repeated intimate contact between a hot lean hydrocarbon gas and a hot absorbing medium containing hydrocarbons, cooling the gas and the absorbing medium and again causing a repeated intimate contact between the gas and the absorbing medium and distilling the absorbing medium to recover a commercial stabilized gasoline.

1,585,263. Process of Catalyzing Oils. derson, Port Arthur, Tex., assignors to Gulf Refining Co., Pittsburgh, Pa., a corporation of Texas. Filed February 28, 1922. Serial No. 539,965. 10 Claims. (Cl. 196—54.)



1. In the catalytic distillation of petroleum oils with aluminum chlorid the process which comprises transmitting a mixture of such an oil with aluminum chlorid once through a heating zone, at a temperature sufficient to cause chemical reaction to occur and allowing the mixture to freely expand in a releasing chamber with extrication of vapors of volatile oils formed by such reaction.

1,592,560. Process of Cracking Petroleum Oil. Carbon P. Dubbs, Wilmette, Ill., assignor to the Universal Oil Products Co., Chicago, Ill., a Corporation of South Dakota. Filed November 27,1922. Serial No. 603,401. 5 Claims. (Cl. 196—58.)



1. A process for treating hydrocarbon oil, consisting in initially passing the charging oil in a restricted stream through that portion of a heating zone maintained at the lowest temperature, in then uniting with the charging oil reflux condensate formed in the process and in passing the commingled charging oil and reflux condensate in a restricted stream through that portion of the heating zone maintained at the highest temperature, in delivering the highly heated oil from said stream into an enlarged reaction zone

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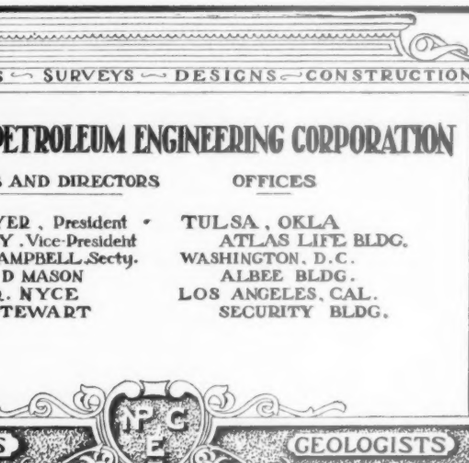

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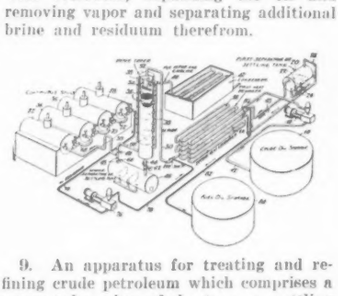
from which no unvaporized oil is permitted to return to either of said streams, in passing vapors from said enlarged zone to a dephlegmator wherein portions thereof are condensed forming said reflux condensate, in passing uncondensed vapors from the dephlegmator to a final condenser, in collecting the resulting distillate and in maintaining a superatmospheric pressure on the oil undergoing conversion.

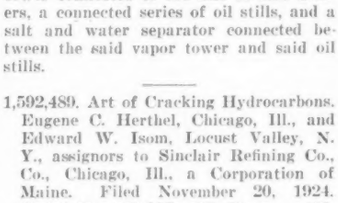
1,592,324. Treatment and Refining of Mineral Oils. John Joseph Allinson, Bartlesville, Okla., assignor, by mesne assignments, to Doherty Research Co., New York, N. Y., a Corporation of Delaware. Filed May 4, 1920. Serial No. 378,733. 11 Claims. (Cl. 196—5.)

1. A process of treating petroleum containing natural brines which comprises heating confined raw petroleum oil while in a rapidly moving stream by heat interchange with hot oil residuum, separating brine from the oil, additionally heating the oil by a second heat interchange with residuum, expanding the oil and removing vapor and separating additional brine and residuum therefrom.



9. An apparatus for treating and refining crude petroleum which comprises a connected series of heaters, a settling tank between successive heaters, a vapor tower connected to the last of said heaters, a connected series of oil stills, and a salt and water separator connected between the said vapor tower and said oil stills.

1,592,489. Art of Cracking Hydrocarbons. Eugene C. Herthel, Chicago, Ill., and Edward W. Isom, Locust Valley, N. Y., assignors to Sinclair Refining Co., Co., Chicago, Ill., a Corporation of Maine. Filed November 20, 1924. Serial No. 750,996. 18 Claims. (Cl. 196—59.)



1. A method of cracking hydrocarbon oils, which comprises circulating the oil from and to a bulk supply tank through a heater maintaining a large body of oil in the bulk supply tank, heating the oil to a cracking temperature in the heater, causing a stratification of the oil in the bulk supply tank by obstructing the free flow of oil downwardly in said body and thereby confining the turbulence due to the introduction of the oil from the heater into the bulk supply tank to the upper stratum, and withdrawing oil from the lower stratum for recirculation through the heater.

1,596,598. Process for Treating Petroleum Emulsions. Melvin De Groote, St. Louis, Mo., assignor to William S. Barnickel & Co., Webster Groves, Mo., a corporation of Missouri. Filed October 7, 1925. Serial No. 61,136. Eight claims. (Cl. 196—4).

2. A process for treating petroleum emulsions, characterized by subjecting the emulsion to the action of a treating agent comprising a condensation product derived from a sulphonated, naphthenic acid and an aromatic hydrocarbon.

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For Alphabetical Index See Page 25

A

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Griscom-Russell Co.
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Acetylene—Dissolved—
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Agitators—
Kaw Steel Construction Co.
Petroleum Iron Works Co.

Alloy Steel (See Steel—Alloy)—

All-Steel Drilling Rigs (See Rigs)

Aluminum Bronze Powder for Paint—
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Ammonia—
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Anchor Clamps (See Clamps)—

Antimonial Leads—
Eagle-Picher Lead Co.

Apparatus—Electric—
Westinghouse Electric & Mfg. Co.

Apparatus—Motor Control—
Westinghouse Electric & Mfg. Co.

Appraisers—
American Appraisal Co.

Arches—Flat Suspended—
Brady Conveyors Corp.

B

Babbitts—
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National Lead Co.
Ryerson, Jos. T., & Sons, Inc.

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Bailers—
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Hough, Charles N., Mfg. Co.
Norris Brothers, Inc.
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Barytes—
National Pigments & Chemical Co.

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Bearings—Thrust—
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Bits—Fish Tail—
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Bits—Rotary Disc—
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Bits—Rotary Rock—
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Reed Roller Bit Co.

Bit Steel (See Steel—Bit)—

Bleaching Powder—
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Blow-Off Valves (See Valves)—

Blowout Preventer—
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Stearns-Roger Mfg. Co.

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C

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Drums (See Barrels)—

Dynamos—
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E

Ejectors—
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Electric Drilling Equipment—
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

Electric Steel Castings (See Castings—Electric—Steel)—

Elevators—Casing and Tubing—
Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
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Oil Well Supply Co.
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Elevators—Rod—
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Enamels—
Arco Company, The.
Detroit Graphite Co.
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Engineers—Oil Treating—
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Engines—Diesel—
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Western Machinery Co.
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Engines—Gas—
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Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
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Engines—Oil—
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National Supply Co.
Oil Well Supply Co.
Power Mfg. Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.

Engines—Semi-Diesel, Oil—
Chicago Pneumatic Tool Co.

Engines—Steam—
Ajax Iron Works.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.

Evaporators—
Newton Process Mfg. Co.
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F

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Fire Extinguishers—
Foamite-Childs Corp.

Fire Extinguishers — Recharge Service—
Foamite-Childs Corp.

Fishing Tools (See Drilling and Fishing Tools)—

Fittings—Dropped Forged Steel—
Vogt, Henry, Machine Co.

Fittings—Forged Steel—
Central Forging Co.

Fittings—Malleable & Cast Iron—
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Walworth Co.

Fittings—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.
Victaulic Co. of America.
Walworth Co.

Fittings—Steel—
Dayton Pipe Coupling Co.
Kerotest Mfg. Co.
Ohio Steel Foundry Co.
Walworth Co.

Flanges—Brass, Iron and Steel—
Jefferson Union Co.
Metric Metal Works.
Walworth Co.

Flange Unions—
Dart, E. M., Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Wheatley Bros. Machine Works.

Flashlights—
National Carbon Co.

Floating Roofs and Decks—
Chicago Bridge & Iron Works.

Floodlights—
Pyle-National Co.

Forging Billets—
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.

Forgings—
Champion Machine & Forging Co.

Fuel Oil (See Oil—Fuel)—

Fullers Earth—
Sinclair Refining Co.

G

Gas Holders—
Chicago Bridge & Iron Works.

Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.

Gaskets—Fibre—
Durabla Mfg. Co.

Gas Masks & Safety Appliances—
Mine Safety Appliance Co.

Gasoline—
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.

Gasoline—Natural—
Chestnut & Smith Corp.
National Gas Products Co.
Skelly Oil Co.
Warren Petroleum Co.

Gasoline Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Widdell Engineering Co.

Gas Regulating Casinghead—
Davis, G. M., Regulator Co.
National Gas Products Co.

Gas Scrubbers—
National Gas Products Co.
Newton Process Mfg. Co.

Gauge Glass—High Pressure—
Durabla Mfg. Co.

Gauge Poles—
Marsh Gauge Pole Co.
Missouri Woodworking Co.

Gauges—Automatic Tank—
Brooks Engineering Co.

Gauges—Draft—
Brown Instrument Co.

Gauges—Oil—
Penberthy Injector Co.

Gauges—Pressure and Vacuum—
Bristol Co.
Brown Instrument Co.
Equitable Meter & Mfg. Co.
Metric Metal Works.

Gauges—Test—
Equitable Meter & Mfg. Co.
Metric Metal Works.

Gear Driven Pumps (See Pumps)

Gears—Cut—
Nuttall, R. D., & Co.

Gears—Reduction—
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.

Gears—Reverse—
Emsco Derrick & Equipment Co.

Generators—
Westinghouse Electric & Mfg. Co.

Generators—Acetylene—
Oxweld Acteylene Co.

Generators—Turbine—
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Glassware—Chemical for Laboratory Use—
Illinois Glass Co.

Governors—
Equitable Meter & Mfg. Co.
Gardner Governor Co.

Governors—Boiler Feed—
Chapman-Fulton Mfg. Co.
Fisher Governor Co.

Grating—Steel—
Blaw-Knox Co.

Grey Iron Castings (See Castings)

H

Hammers—Chipping and Calking Pneumatic—
Chicago Pneumatic Tool Co.

Hammers—Riveting Pneumatic—
Chicago Pneumatic Tool Co.

Hangers—Iron and Steel—
Continental Supply Co.
Dodge Mfg. Corp.

Hangers—Tubing—
Hercules Tool Co.

Hatchets—Gauges and Thief—
Oil Conservation Engineering Co.

Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Heat Interchangers—Fluid—
Braun, C. F., & Co.
Ross Heater & Mfg. Co., Inc.

Hoists—Pneumatic, Geared and Universal—
Chisholm-Moore Mfg. Co.
Yale & Towne Mfg. Co.

Hoists—Portable—
Chisholm-Moore Mfg. Co.
Ford Chain Block Co.
Sullivan Machinery Co.
Wright Mfg. Co.
Yale & Towne Mfg. Co.

Hooks for Rods and Tubing—
B. & A. Specialty Co.
Dunn Mfg. Co.

Hose—
Fenwick-Reddaway Mfg. Co.

Hose—Drillers—
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Hose—Oil Suction and Discharge
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Hose—Rubber—
Goodyear Tire & Rubber Co.
United States Rubber Co.

Hypochlorite of Lime—
Mathieson Alkali Works, Inc.

I

Injectors—
Penberthy Injector Co.

Inspectors—Pipe—
Hunt, Robert W., Co.

Insulation Materials—
Celite Products Co.
General Insulating & Mfg. Co.
Johns-Manville, Inc.

Insurance—Fire—
Oil Insurance Association.

Insurance—Tornado—
Oil Insurance Association.

Iron—Ingot—
American Rolling Mill Co.

J

Jacks—Hydraulic—
Bridgeport Machine Co.

Jacks—Lifting—
Templeton, Kenly & Co., Ltd.

Jacks—Pumping—
American Mfg. Co. of Texas.
American Wells Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Norris, W. C.
Spang & Co.

Jars—
Arbon, Paul, & Co.
Bridgeport Machine Co.
Spang & Co.

Jar Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

K

Kerosene—
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.

L

Lacquers—
Arco Company, The.
Sherwin-Williams Co.

Lanterns—Electric—
Delta Electric Co.

Lead and Mixed Metal Products—
Eagle-Picher Lead Co.
National Lead Co.

Lead in Oil—
Eagle-Picher Lead Co.
National Lead Co.

Lead Wool and Containers—
Eagle-Picher Lead Co.

Lighting Equipment—
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Litharge—
Eagle-Picher Lead Co.
National Lead Co.

Loaders—Trucks—
Barber-Greene Co.

Long Distance Telephone—
American Telephone & Telegraph Co.

Lubricating Devices—
McCord Radiator & Mfg. Co.

Lubricators—
Ajax Iron Works.
Lunkenheimer Co.

Lubricators—Force Feed—
Hills-McCanna Co.
McCord Radiator & Mfg. Co.
Manzel Brothers Co.

M

Machine Tools—
Ryerson, Jos. T., & Sons, Inc.

Manholes—Tank—
Brooks Engineering Corp.

Manifolds—
Reid, Joseph, Gas Engine Co.

Meters—Gas—
Equitable Meter & Mfg. Co.
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis.

Meters—Electric—
Brown Instrument Co.

Meters—Gasoline—
Pittsburgh Meter Co.

Meters—Oil—
Pittsburgh Meter Co.

Molded Goods—Rubber—
Goodyear Tire & Rubber Co.

Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.

Motors—Gasoline (See Engines—Gasoline)—

N

Naphtha—
Pure Oil Co.

Natural Gasoline (See Gasoline—Natural)—

Natural Gasoline Plant Equipment—
Campbell, J. A.
Cooper, C. & G., Co.
Griscom-Russell Co.
National Gas Products Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Westcott & Greis.

Nitrogen—
Linde Air Products Co.

Nozzles—Spray—
Power Plant Equipment Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.

Oil Burners (See Burners—Oil)—

Oil Field Equipment—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Steel Construction Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.

Oil—Fuel—
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The.

Oil—Gas—
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The.

Oil—Lubricating—
Barnsdall Refining Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Texas Company, The.

Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.
Skelly Oil Co.

Oiling Devices—
Lunkenheimer Co.

Oil Meters (See Meters)—

Oil Piping Equipment (See Fittings)—

Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.

Oil Well Cementing—
Halliburton Oil Well Cementing Co.

Oil Well Tools—
D. & B. Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.

Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.

Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.

Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Meier, E. C., Lubricating Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.

Packing—
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.

Packing—Metallic—
Crane Packing Co.

Painting Equipment—Mechanical
Matthews, W. N., Corp.

Paints—
Aluminum Co. of America.
American Asphalt Paint Co.
Arco Company, The.
Cook Paint & Varnish Co.
Detroit Graphite Co.
Dixon, Joseph, Crucible Co.
Du Pont de Nemours, E. I. & Co., Inc.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Hill, Hubbell & Co.
National Lead Co.
Sherwin-Williams Co.
St. Louis Surfacer & Paint Co.

Pipe—Cast Iron—
Greenspon's Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co

Pipe—Lead Chemical and Antimonial—
Eagle-Picher Lead Co.
National Lead Co.

Pipe—Steel—
Central Tube Co.
Continental Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Sons, Inc.
South Chester Tube Co.
Spang Chalfant & Co., Inc.
Superior Tube Co.
Taubman Supply Corp.
Wheeling Steel Corp.

Pipe—Wrought Iron—
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
South Chester Tube Co.
Superior Tube Co.
Taubman Supply Corp.

Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons, Inc.

Pipe Clamps (See Clamps—Pipe)—

Pipe Grips—
Larkin & Co.

Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.

Pipe Line Coatings—
Hill, Hubbell & Co.

Pipe Line Construction Tools—
National Transit Pump & Machine Co.

Pipe Line Equipment—
Gaso Pump & Burner Mfg. Co.
Wheatley Bros. Machine Works.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.

Pipe Straightening Machines—
W-K-M Co., Inc.

Pipe Suspension Device—
Stearns-Roger Mfg. Co.

Pipe Threaders—Power—
Williams Tool Corp.

Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works.
Ridge Tool Co.
Walworth Co.

Piping—Fabricated—
Midwest Piping & Supply Co.

Piping—Hard Rubber—
United States Rubber Co.

Piping—Steel & Iron—
Crane Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Power Piping Co.

Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.

Pistons—Expansion—
Wilson Oil Tools Corp.

Pistons—Slush Pump—
Guiberson Corp.

Plugs—Bottom Water—
Guiberson Corp.

Pre-Heaters—
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.

Preservatives—Asphalt—
American Asphalt Paint Co.

Pulleys—Wood, Iron and Steel—
Continental Supply Co.
Dodge Mfg. Co.

Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.

Pumpers—Long Stroke—
Farley Machine Co.

Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.

Pumping Equipment—
American Well Works.
Axelson Machine Co.
Byron Jackson Pump Mfg. Co., Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Goulds Pumps, Inc.
Jones, S. M., Co.
Myers, F. E., & Bros. Co.
Northrup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P., Co.
Waukesha Motor Co.

Pumping Gear Units—
Nuttall, R. D., & Co.

Pumping Powers—
Bessemer Gas Engine Co.
Buda Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.

Pumps—Boiler Feed—
Ajax Iron Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Goulds Pumps, Inc.
Oil Well Supply Co.
Smith Separator Co.

Pumps—Centrifugal—
American Well Works.
Byron Jackson Pump Mfg. Co. Inc.
Fairbanks-Morse & Co.
Goulds Pumps, Inc.
Smith Separator Co.
Worthington Pump & Machinery Corp.

Pumps—Direct Driven—
Bessemer Gas Engine Co.
Smith Separator Co.

Pumps—Electric—
Prescott Co.
Smith Separator Co.

Pumps—Fuel Oil Service—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Smith Separator Co.

Pumps—Fuel Oil Transfer—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co. Inc.

Pumps—Gasoline and Oil for Filling Stations—
Gilbert & Barker Mfg. Co.

Pumps—Gear Driven—
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.
Smith Separator Co.

Pumps—Hot Oil—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Goulds Pumps, Inc.
Smith Separator Co.

Pumps—Pipe Line—
Byron Jackson Pump Mfg. Co., Inc.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Prescott Co.
Wheatley Bros. Machine Works
Worthington Pump & Machinery Corp.

Pumps—Portable—
Gaso Pump & Burner Mfg. Co.

Pumps—Power—
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Prescott Co.
Smith Separator Co.
Waukesha Motor Co.

Pumps—Refinery—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.
Smith Separator Co.

Pumps—Rotary—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Roots, P. H. & F. M., Co.

Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.
Smith Separator Co.

Pumps—Slush—
Gardner Governor Co.

Pumps—Steam—
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.
Smith Separator Co.

Pumps—Suction—
Gaso Pump & Burner Mfg. Co.

Pumps—Vacuum—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.

Pumps—Water—
American Well Works
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Prescott Co.
Smith Separator Co.

Pyrometers—
Brown Instrument Co.
Republic Flow Meters Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.

Ratchet Pipe Threaders—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Ratchet Reamers—
Nye Tool & Machine Works.

Ratchet Stocks and Dies—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Receiving Boxes—
Reid, Joseph, Gas Engine Co.

Recorders—Differential Pressure—
Equitable Meter & Mfg. Co.
Metric Metal Works.

Refinery Equipment—
American Radiator Co.
Blaw-Knox Co.
Braun, C. F., & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works
Cross Engineering Co.
Graver Corp.
Griscom-Russell Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries
Smith, A. O., Corp.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.
Widdell Engineering Co.

Refractories—Furnace, Stills and Baffles—
National Gas Products Co.

Refrigerating Machinery—
Carbondale Machine Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

Regulators—
Fisher Governor Co.
Gilfillan Machine Works
Smith Separator Co.

Regulators—Gas—
Chaplin-Fulton Mfg. Co.
Davis, G. M., Regulator Co.
Equitable Meter & Mfg. Co.
Fisher Governor Co.
Metric Metal Works
National Gas Products Co.
Smith Separator Co.

Rental Service—
Bridgeport Machine Co.

Reversible Clutches—
Bessemer Gas Engine Co.

Rig Irons—
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rigs—Drilling, All Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

Rod Guides—
Meier, E. C., Lubricating Co.

Rogs—Gauge—
Missouri Woodworking Co.

Rods—Polish—
Jones, S. M., Co.

Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.

Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffield Steel Corp.

Rods—Valve—
Jones, S. M., Co.

Roofing—Asbestos—
Johns-Manville, Inc.

Roofing—Galvanized Iron—
American Rolling Mill Co.

Rope Socket Metal—
Eagle-Picher Lead Co.

Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.

Rope—Wire—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Wickwire-Spencer Steel Corp.
Leschen, A., & Sons, Rope Co.
Williamsport Wire Rope Co.

Rotary Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Rotary Drilling Equipment—
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Rotary Lines (See Rope—Wire)—

Rotary Post—
Reed Roller Bit Co.

Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.

Rust Preventatives—
Dearborn Chemical Co.
Eagle-Picher Lead Co.

S

Sand Lines—Manila—
Ajax Rope Co., Inc.
Plymouth Cordage Co.

Sand Lines—Wire—
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Hazard Mfg. Co.
Wickwire-Spencer Steel Corp.

Screens—Oil Well—
Layne & Bowler Co.

Screens—Water Well—
Layne & Bowler Co.

Screws Temper—
Burns Tool Co.

Securities—Oil—
Pforzheimer, Carl H., & Co.

Separators—Centrifugal—
Miller, Max B., & Co.

Separators—Gas and Oil—
Smith Separator Co.

Separators—Steam—
Volz Engineering Equipment Co.

Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.

Sheets—Corrugated, Black and Galvanized—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Ryerson, Jos. T., & Son, Inc.
United Alloy Steel Corp.

Sheets—Iron—
American Rolling Mill Co.

Sheets—Steel—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Sheffield Steel Corp.
United Alloy Steel Corp.

Shingles—Asbestos—
Johns-Manville, Inc.

Siding—Galvanized Iron—
American Rolling Mill Co.

Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Smoke Stacks—
Donovan Boiler Works

Snuffers—Fire—
Simplex Equipment Co.

Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

Sockets—Sucker Rod—
Guiberson Corp.

Sockets—Swivel—
Arbon, Paul, & Co.

Sockets—Wire Rope—
Chicago Steel Foundry Co.

Soda Ash—
Mathieson Alkali Works, Inc.

Soda—Caustic—
Mathieson Alkali Works, Inc.

Solders—Bar and Wire—
Eagle-Picher Lead Co.
Hoyt Metal Co.

Spark Plugs—
Mosler Metal Products Corp.

Spears—
Acme Fishing Tool Co.
Brown Tool Co., Inc.

Sprockets—Power Transmission—
Ajax Iron Works
Chain Belt Co.

Stands—Vice—
Nye Tool & Machine Works

Steel—All Kinds—
Ryerson, Jos. T., & Son, Inc.

Steel—Alloy—
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.

Steel—Bit—
Central Steel Co.
United Alloy Steel Corp.

Steel—Hot Rolled Strip—
Central Steel Co.

Steel—Special—
Andrews Steel Co.
Central Steel Co.
United Alloy Steel Corp.

Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.

Steel Pitmans—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Steel Plate Construction—
Chicago Bridge & Iron Works
Graver Corp.
Kaw Steel Construction Co.
Pennsylvania Engineering Works
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.

Steel Wheels and Tug Rims—
International Derrick & Equipment Co.

Stills—
Blaw-Knox Co.
Graver Corp.
Kaw Steel Construction Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Smith, A. O., Corp.
Vogt, Henry, Machine Co.
Widdell Engineering Co.

Stocks and Dies—
Borden Co.
Nye Tool & Machine Works
Toledo Pipe Threading Machine Co.

Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.

Sulphuric Acid—
Eagle-Picher Lead Co.

Superheaters—Steam—
Power Plant Equipment Co.

Swabs—
Arbon, Paul, & Co.
Burt Corporation
Guiberson Corp.
Simplex Equipment Co.

Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

Swing Line Equipment—
Brooks Engineering Corp.

Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tachometers—
Brown Instrument Co.

Tank Equipment—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Tanks—Bolted—
Butler Mfg. Co.
Columbian Steel Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

Tanks—Bulk Station—
Butler Mfg. Co.
Graver Corp.

Tanks—Cylindrical—
Graver Corp.
Petroleum Iron Works Co.

Tanks—Elevated Steel—
Chicago Bridge & Iron Works
Graver Corp.

Tanks—Field Storage—
American Car & Foundry Co.
Donovan Boiler Works
Graver Corp.
Kaw Steel Construction Co.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
United Iron Works, Inc.

Tanks—Horizontal Storage—
Graver Corp.
Kaw Steel Construction Co.
Maloney Tank Mfg. Co.

Tanks—Run Down—
Chicago Bridge & Iron Works
Donovan Boiler Works
Graver Corp.
Kaw Steel Construction Co.
Newton Process Mfg. Co.

Tanks—Steel Storage—
Chicago Bridge & Iron Works

Tanks—Truck—
Butler Mfg. Co.
Columbian Steel Tank Co.
White Co.

Tanks—Underground—
Butler Mfg. Co.
Gilbert & Barker Mfg. Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.

Tanks—Welded—
Chicago Bridge & Iron Works
Graver Corp.
Pennsylvania Engineering Works

Taper Taps—
Hughes Tool Co.

Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.
States Engineering Co.

Thermometers—Indicating and Recording—
American Shaeffer & Budenberg Corp.
Bristol Co.
Brown Instrument Co.

Thermometers—Resistance—
Brown Instrument Co.

Threading Machines—
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.

Thread Protectors—
Spang & Co.

Tires—Automobile—
Continental Supply Co.

Tires—Pneumatic & Solid—
Kelly-Springfield Tire Co.

Tires—Truck—
Kelly-Springfield Tire Co.

Tongs—
Bridgeport Machine Co.
Wilson Oil Tools Corp.

Tongs—Back Up—
Williams, J. H., & Co.

Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.

Tongs—Casing—
Dunn Mfg. Co.
Guiberson Corp.

Tongs—Chain Pipe—
Armstrong Bros. Tool Co.
Williams, J. H., & Co.

Tongs—Pipe—
National Transit Pump & Machine Co.

Tongs—Rotary—
Dunn Mfg. Co.

Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.

Tongs—Tubing—
Dunn Mfg. Co.

Tool Chests—Pipe—
Nye Tool & Machine Works

Tool Joints—
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.

Torches—
Oxweld Acetylene Co.

Towers—
Graver Corp.

Tractors—
Cleveland Tractor Co.
International Harvester Co. of America.

Trailers—
Spencer Trailer Co.

Transmission Belt—Rubber—
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Transmission Lining—
Stanley Belting Corp.

Traveling Block—
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Mfg. Co.

Trenchers—Vertical Boom—
Barber-Greene Co.

Trucks—Motor—
Ford Motor Co.
General Motors Truck Co.
Graham Brothers
International Harvester Co. of America
White Co.

Tubes—Boiler, Charcoal Iron—
Byers, A. M., Co.
Reading Iron Co.

Tubes—Boiler Steel—
Continental Supply Co.
National Tube Co.
Ryerson, Jos. T., & Sons, Inc.

Tubing—
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
Continental Supply Co.
National Tube Co.
Pittsburgh Steel Products Co.
Reading Iron Co.
Republic Iron & Steel Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

Tubing Catchers—
Dunn Mfg. Co.
Guiberson Corp.

Tubing Protectors (See Rod Guides)—

Tubular Goods—
Babcock & Wilcox Tube Co.
Central Tube Co.
Continental Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.
Wheeling Steel Corp.

Tubular Goods—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.

Turbines for Lighting Equipment
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

U

Underreamer Body Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Underreamers—
Bridgeport Machine Co.
Brown Tool Co., Inc.
Guiberson Corp.
Wilson Oil Tools Corp.

Unions—
Central Forging Co.
Dart, E. M., Mfg. Co.
Jefferson Union Co.

V

Valuations—
American Appraisal Co.

Valves—Blow-Off—
Homestead Valve Mfg. Co.
Merco Nordstrom Valve Co.

Valves—Brass & Bronze—
Homestead Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Cast Steel—
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.
Walworth Co.

Valves—Check—
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.
Walworth Co.

Valves—Drop Forged Steel—
Edwards Valve & Mfg. Co.
Vogt, Henry, Machine Co.

Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Crane Co.
Darling Valve & Mfg. Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
Powell, Wm., Co.
Walworth Co.

Valves—Iron—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Metal Pump—
Durabla Mfg. Co.

Valves—Pump—
United States Rubber Co.

Valves—Relief—Supersensitive—
Davis, G. M., Regulator Co.

Valves—Steel—
Chapman Valve Mfg. Co.
Edward Valve Mfg. Co.
Kerotest Mfg. Co.
Lunkenheimer Co.
Metric Metal Works
Powell, Wm., Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Tank Vent—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Valves—Working Barrel—
Atlas Ball Co.
Axelson Machine Co.
D & B Pump & Supply Co.
Hough, Charles N., Mfg. Co.
Northrup Equipment Co.
Oil Well Supply Co.

Varnishes—
Arco Company, The
Detroit Graphite Co.
Sherwin-Williams Co.

Vises—Bench—
Nye Tool & Machine Works

Vises—Pipe—
Nye Tool & Machine Works

Vises—Post—
Nye Tool & Machine Works

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.

Walking Beams—Steel—
Emsco Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Water Cooling Systems—
Power Plant Equipment Co.

Water Softeners and Filters—
Butler Mfg. Co.
Graver Corp.

Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

Weight Indicators—
Hughes Tool Co.

Welding Accessories—Electric—
Wilson Welder & Metals Co.

Welding and Cutting Apparatus—
Oxweld Acetylene Co.

Welding Machines—Electric—
Wilson Welder & Metals Co.

Welding Supplies—
Oxweld Acetylene Co.

Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.

Well Shooting—
Eastern Torpedo Co.
Kinley, M. M.
Zero Hour Torpedo Co.

Wheels—Pipe Cutter—
Nye Tool & Machine Works

Winches—
Braden Co.
Brooks Engineering Co.
Oil Conservation Engineering Co.

Wire Lines (See Cables—Steel)—

Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.

Working Barrels—
Axelson Machine Co.
D & B Pump & Supply Co.
D. & N. Specialty Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Norris, W. C.
Northrup Equipment Co.
Oil Well Supply Co.

Wrenches—Closet Spuds—
Nye Tool & Machine Works

Wrenches—Drop Forged—
Williams, J. H., & Co.

Wrenches—Pipe—
Trimont Mfg. Co.
Walworth Co.

Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works

Z

Zinc Oxide—
Eagle-Picher Lead Co.

Oklahoma-Kansas and Eastern Pipeline Report

PIPELINE STATEMENT FOR JUNE

Oklahoma-Kansas

Runs

*Prairie Pipe Line Co. ...	3,864,000	128,800
Gulf Pipe Line Co.	1,185,886	39,530
Texas Pipe Line Co.	505,387	16,846
Magnolia Petroleum Co...	1,141,393	38,046
Cosden Pipe Line Co. ...	821,767	27,392
Empire Pipe Line Co.	724,409	24,147
*Sinclair Pipe Line Co...	1,692,000	56,400
'Other lines	7,080,000	236,000
Total May	17,864,437	676,281
Total June	17,014,842	567,161
Difference	849,596	9,120

Shipments

†Prairie Pipe Line Co.....	4,215,416	140,514
Gulf Pipe Line Co.	1,078,313	35,944
The Texas Pipe Line Co.	777 062	25,902
Magnolia Petroleum Co. .	1,223,754	40,792
Cosden Pipe Line Co.	798,600	26,620
Empire Pipe Line Co.	828,505	27,616
†Sinclair Pipe Line Co....	2,486,153	82,872
*Other lines	7,950.000	265,000
Total June	19,357,802	645,260
Total May	21,275,280	686,298
Difference	1,917,477	41,038

Stocks

*Prairie Oil & Gas Co.	27,750,000
*Prairie Pipe Line Co.	2,000.000
Gulf Pipe Line Co. and Gypsy Oil Co.	6,398,124
The Texas Company	2,921,098
Magnolia Petroleum Co.	4,533,898
Empire Pipe Line Co.	2.736,142
Cosden Pipe Line Co.	2,055,583
*Sinclair Pipe Line Co.	18,800.000
Carter Oil Co.	12,948,357
*Other lines	9,300,000
Total June	89,443,202
Total May	90,623,771
Difference	1,180,569

*Estimated. †Prairie Pipe Line shipments include also Texas crude oil and Sinclair shipments include also Texas and Wyoming crude oil.

Note:—Stocks do not include approximately 4,800,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipelines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for June and July.

	June, '26	July, '26
Nat. Transit	169,062.33	163,355.48
S. W. Pa. Pipe	96,302.81	101,686.03
Eureka Pipe	388,529.04	392,989.67
Buckeye P. L. (Macksburg)	317,931.59	306,269.80
Buckeye P. L. (Cleveland)	12,694.00	11,170.47
Buckeye P. L. (Lima, etc.)	139,350.89	137,149.47
Indiana P. L.	11,401.12	10,828.41
Cumberland P. L. ..	271,131.47	282,211.58
N. Y. Transit	20,964.71	21,334.18
Tidewater P. L.	165,122.06	168,664.93
Pure Oil	171,908.20	176,480.50
Emery P. L.	53,721.55	53,064.83
Indian Ref.	98,207.86	104,990.12
Paragon Dev.	222.32	22,718.44
Pittsburgh P. L. ...	7,380.66	6,486.24
Total	1,923,930.61	1,959,400.15
Daily average ...	64,131.02	63,206.46

Note—Indian Refining Co. also reported other receipts of 254,924.52 bbls. Paragon Refining Co. had other receipts of 154,728.15 bbls. Paragon Development had other receipts of 2,162.99 bbls. Pure Oil had other receipts of 72,402.22 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipelines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for June and July:

	June, '26	July, '26
Nat. Transit	369,943.34	370,891.32
S. W. Pa. P. L.	410,424.53	409,458.00
Eureka P. L.	157,187.82	194,592.54
Buckeye P. L. (Macksburg)	143,825.27	154,972.89
Buckeye P. L. (Cleveland)	969.85	1,408.19
Buckeye P. L. (Lima, etc.)	889,104.44	895,654.71
Indiana P. L.	963,293.95	995,699.54
Cumberland P. L. ..	168,812.76	168,426.65
N. Y. Transit	699,865.71	648,783.68
Northern P. L.	156,433.96	185,783.37
Tidewater P. L.	112,918.87	107,643.02
Pure Oil	251,768.14	238,475.30
Emery P. L.	51,241.24	54,161.96
Paragon Ref.	138,805.17	159,136.74
Indian Ref.	411,634.57	372,128.62
Paragon Dev.	24,375.86	24,942.64
Pittsburgh P. L. ...	7,111.28	7,169.75
Total	4,807,716.76	4,989,308.90
Daily average ...	160,257.23	160,945.45

Gross Stocks

The gross stocks held by various pipelines in the oil producing sections of New York Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of June and July, were as follows:

	June, '26	July, '26
Nat. Transit	1,092,580.36	1,053,770.84
S. W. Pa. P. L.	691,529.32	683,787.99
Eureka P. L.	1,505,989.62	1,483,121.26
Buckeye P. L. (Macksburg)	417,389.77	415,112.82
Buckeye P. L. (Cleveland)	96,462.04	85,333.91
Buckeye P. L. (Lima, etc.)	2,236,314.81	2,428,415.17
Indiana P. L.	656,955.26	676,702.06
Cumberland P. L. ..	596,899.55	633,819.77
Southern P. L.	364,453.41	476,270.69
N. Y. Transit	902,682.42	822,714.93
Northern P. L.	463,514.79	433,011.93
Pure Oil	439,660.41	450,206.54
Emery P. L.	38,147.78	37,324.53
Paragon Ref.	41,138.98	36,255.80
Indian Ref.	123,370.73	110,400.30
Paragon Dev.	4,340.27	4,313.95
Pittsburgh P. L. ...	4,483.60	4,124.64
Total	9,585,904.12	9,734,686.53
Increase	54,146.73	148,782.41

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipelines at the close of June and July showing the gross stocks of the above fields:

	June, '26	July, '26
Pennsylvania	3,941,471.18	4,047,418.29
Lima	878,020.72	859,783.19
Kentucky	1,131,573.86	1,249,214.91
Mid-Continent	3,592,023.19	3,502,567.49
Illinois	42,815.17	75,702.65
Total	9,585,904.12	9,734,686.53

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1923	1924	1925	1926
January	75,790	62,638	56,831	55,630
February	71,092	68,023	60,606	60,394
March	76,592	68,721	60,575	61,644
April	75,614	71,058	63,062	63,019
May	77,365	63,942	59,217	60,580
June	77,593	63,230	61,270	64,131
July	71,879	64,208	62,639	63,206
August	76,910	59,942	59,686	.....
September	72,358	62,930	62,510	.....
October	76,256	64,976	60,995	.....
November	70,762	56,282	59,350	.....
December	69,271	55,814	57,974	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1923	1924	1925	1926
January	171,067	145,518	157,889	156,056
February	164,219	148,732	160,863	156,488
March	185,487	147,098	154,591	150,239
April	170,751	147,611	151,429	162,371
May	177,102	134,997	146,995	160,988
June	173,598	143,010	149,467	160,257
July	168,330	124,187	161,338	160,945
August	142,776	123,120	161,730	.....
September ...	137,266	127,325	156,719	.....
October	134,597	123,170	145,388	.....
November . ..	131,426	124,400	143,582	.....
December . ..	139,909	151,392	150,162	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1924	1925	1926
January	12,907,202	11,353,276	9,859,170
February	11,844,068	11,192,924	9,579,354
March	10,966,752	11,168,297	9,438,292
April	10,922,742	11,062,082	9,805,851
May	11,335,309	11,207,562	9,531,757
June	11,544,204	11,093,796	9,585,904
July	12,062,361	11,067,453	9,734,687
August	172,221,676	10,974,481	.....
September . ..	12,206,826	10,781,753	.....
October	12,664,061	11,086,859	.....
November . ..	12,268,530	11,068,158	.....
December . ..	11,583,680	10,458,445	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

	Receipts	Shipmts.	Stocks
1925—			
July	2,633.34	2,174.10	11,550.29
August	3,216.97	1,577.99	13,189.27
September	2,929.99	5,352.05	10,767.21
October	2,869.75	1,499.34	12,137.62
November	2,759.66	2,571.32	12,283.40
December	2,661.87	3,441.67	11,503.60
1926—			
January	2,990.16	1,478.35	13,015.41
February	2,580.23	2,776.19	12,819.45
March	2,754.62	1,732.77	13,841.30
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.35	13,295.96
June	3,217.62	1,655.15	14,858.43
July	3,025.86	4,075.11	13,809.18

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Aug. 1	2,529,844.32
Runs from wells	684,910.04
Other receipts	230,983.04
Regular deliveries	436,288.50
Other deliveries	672,106.54

The amount of Illinois oil run by the Tide Water Pipe Co. in July was 28,580.62 bbls. and deliveries were 53,804.32 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1925—		
July	724,481.26	564,713.19
August	673,652.38	650,649.97
September	706,434.87	510,697.61
October	706,532.00	633,682.32
November	664,556.30	488,449.19
December	665,086.99	578,938.47
1926—		
January	665,243.62	516,083.76
February	632,611.99	506,310.51
March	753,300.74	524,625.95
April	610,957.04	487,694.00
May	682,416.67	498,456.90
June	693,102.34	558,054.94
July	713,490.66	490,092.82

The Tide Water Pipe Co., Ltd., also delivered in July 173,325.78 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: New Orleans Galveston	Port Arthur Baton Rouge	Sabine Pass	Tampa	Total	Total All Ports
March	7,000	2,516	48,839	16,612	16,903	91,870	.....	.....	.....	.....	.....	91,870
April	19,033	5,133	28,333	13,400	22,867	88,767	.....	.....	4,700	.....	.....	93,467
May	27,065	7,903	16,387	13,452	17,742	81,549	.....	.....	4,032	.....	.....	85,571
June	24,533	11,000	22,800	34,467	15,167	107,967	.....	.....	.....	.....	.....	107,967

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: New Orleans Galveston	Port Arthur Baton Rouge	Sabine Pass	Tampa	Total	Total All Ports
March	28,387	15,935	81,742	16,290	34,258	176,612	19,355	44,097	7,096	5,294	75,842	252,454
April	15,200	14,000	76,833	10,633	39,333	156,000	19,200	24,900	2,000	4,433	50,533	206,533
May	12,387	12,258	75,516	11,645	21,548	133,355	12,710	46,226	1,936	5,677	66,549	198,904
June	15,800	10,800	87,300	6,500	21,267	141,667	25,300	42,267	6,567	3,900	78,033	219,700

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
July:	Month	20,411,059	14,263,565	12,337,598	3,686,675	7,835,819	1,898,178	3,129,199	3,348,000	66,910,083
	Daily average	658,421	460,115	397,894	118,925	252,768	61,231	100,942	108,000	2,158,390
August:	Month	21,055,580	14,441,040	11,936,079	3,558,087	7,450,580	1,858,543	3,250,448	3,177,000	66,677,357
	Daily average	677,599	465,480	385,022	114,777	240,341	56,727	104,853	102,484	2,150,883
September:	Month	20,062,763	14,825,040	11,264,890	3,393,270	6,457,950	1,776,570	3,235,625	3,212,000	64,228,108
	Daily average	668,759	494,168	375,496	113,109	215,265	66,219	107,854	107,067	2,140,937
October:	Month	20,015,076	14,931,199	11,196,511	3,477,146	6,409,281	1,871,830	3,394,990	3,248,000	64,534,033
	Daily average	645,648	481,329	361,178	112,166	206,751	60,382	109,500	104,774	2,081,743
November:	Month	19,095,907	14,590,980	10,650,987	3,221,760	6,927,955	1,758,882	3,088,121	2,992,000	61,325,692
	Daily average	636,530	486,366	355,003	107,397	197,599	58,629	102,937	99,753	2,044,190
December:	Month	19,249,711	14,123,848	10,930,455	3,308,816	6,047,883	1,763,966	3,187,164	3,086,900	61,698,743
	Daily average	620,959	455,608	352,595	106,736	195,093	56,902	102,812	99,552	1,990,282
January:	Month	19,069,563	13,674,813	11,048,715	3,250,536	5,489,604	1,726,390	3,136,280	3,014,000	60,410,901
	Daily average	615,147	441,123	356,442	104,856	177,084	55,690	104,396	97,226	1,948,741
February:	Month	17,163,963	12,392,016	9,943,232	2,877,812	4,756,836	1,584,184	2,778,605	2,931,000	54,427,648
	Daily average	612,999	442,572	355,115	102,779	169,887	56,578	99,236	104,678	1,978,844
March:	Month	18,825,786	14,312,886	11,014,238	3,334,887	5,115,837	1,889,663	3,161,250	3,349,000	61,003,547
	Daily average	608,283	461,706	355,298	107,577	165,027	60,957	101,976	108,032	1,967,856
April:	Month	18,091,771	14,468,190	10,799,760	3,330,120	5,127,510	1,959,570	3,231,404	3,183,000	60,191,325
	Daily average	603,059	482,273	359,992	111,004	170,917	65,319	104,239	106,100	2,006,377
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,122,955
	Daily average	602,166	467,968	385,187	113,440	176,879	71,998	111,596	107,000	2,036,224
June:	Month	18,269,417	14,073,510	11,783,550	3,366,450	5,064,760	2,205,480	3,437,905	3,240,000	61,441,072
	Daily average	608,981	469,117	392,785	112,215	168,822	73,516	114,597	108,000	2,048,036
	Total 12 months	229,927,730	170,594,095	134,846,912	40,222,199	71,166,954	22,525,194	38,490,480	38,097,900	745,971,464
	Daily average	630,989	467,381	369,436	110,473	194,978	61,713	105,478	104,378	2,043,757

XUM

fittings

The same quality of castings, the same accurate machining, the same careful workmanship that we put into Gaso Pumps we also put into Gaso FITTINGS. As a result, they have a special appeal for pipe line officials who build with the future in mind.

In addition to a comprehensive line of standard fittings—including heater heads, Beckwith swing check valves, liner expanders, river clamps, pipe line strainers, extra heavy flanges and ground joint flange unions—our foundry and pattern shop enable us to figure on special requirements.

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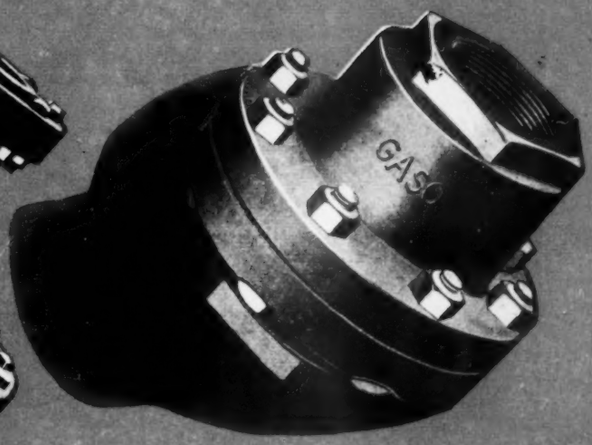

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A chain is no stronger than its weakest link and a bit is no better than its pin

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GUARANTEED

DRILLING BITS

You cannot afford to gamble in these days of mile deep and $50,000 holes with a bit with an ordinary pin when you can get Bridgeport Hychrome Drilling Bits with guaranteed pins.

The Bridgeport Hychrome Drilling Bit carries a guarantee that the pin will not "break off," "jump off," or "pull off." A written guarantee is furnished with every set of Hychrome bits purchased.

Bridgeport is the first company and only manufacturer of oil well tools to make a drilling bit with a pin that is backed by a positive, written guarantee.

The Hychrome Process is a secret process developed by the Bridgeport Machine Company after a decade of constant improvement in methods of oil country tool manufacture.

Hychrome Drilling Bits are identified by a Chrome (orange) band painted on a dark blue background and by their performance on the job.

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